



Infrastructure · Water · Environment · Buildings

Mr. Keith Krawczyk  
MDEQ-RRD-Superfund  
Constitution Hall – 3<sup>rd</sup> Floor South  
P.O. Box 30426  
525 West Allegan Street  
Lansing, Michigan 48909-7926



ARCADIS  
6723 Towpath Road  
P.O. Box 66  
Syracuse  
New York 13214-0066  
Tel 315.446.9120  
Fax 315.671.9450  
[www.arcadis-us.com](http://www.arcadis-us.com)

## ENVIRONMENT

Subject:  
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site  
King Highway Landfill Operable Unit  
Landfill Gas Monitoring Program  
Quarterly Report (2012 Quarter 4)

Date:  
December 10, 2012

Dear Mr. Krawczyk:

On behalf of Georgia-Pacific LLP (Georgia-Pacific), this letter presents results from the 2012 fourth quarter post-closure landfill gas monitoring event conducted on November 8, 2012 at the Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site King Highway Landfill Operable Unit 3 (KHL OU) located in Kalamazoo, Michigan. The November 2012 monitoring event reflects continued quarterly monitoring activities performed consistent with the June 2002 *Final KHL-OU Landfill Gas Monitoring Plan* (LGMP) prepared by Blasland, Bouck & Lee, Inc. on behalf of Georgia-Pacific. Consistent with previous landfill gas monitoring events, representatives from the Michigan Department of Environmental Quality (MDEQ) were present to observe the monitoring activities, which were performed by ARCADIS using a GEM™ 500 portable gas analyzer.

Monitoring results for the November 2012 event are presented in Table 1 and Figure 1; all monitoring results recorded to date are presented in Table 2 and Figure 2 (methane only).

Monitoring of the four permanent gas vents located within the landfill proper (V-1-1, V-2-1, V-2-2, and V-3-1) resulted in methane detections at concentrations above the lower explosive limit (LEL) of 5% at one of the four vents (i.e., V-1-1).

Monitoring of the eight permanent landfill gas monitoring probes located within the property boundary (GW-1 through GW-4 and GW-11 through GW-14) resulted in methane detections at concentrations above the LEL in six of the eight gas probes (i.e., GW-1 through GW-4, GW-13, and GW-14). Note that gas probes GW-13 and GW-14 are located along the western side of the OU.

Contact:  
Patrick McGuire  
  
Phone:  
315.671.9233  
  
Email:  
[pat.mcguire@arcadis-us.com](mailto:pat.mcguire@arcadis-us.com)  
  
Our ref:  
B0064583.0003.00907

Monitoring of the 14 permanent gas vents located within the property boundary (V-1-2 through V-1-6, V-2-3, V-2-10, V-2-18, and V-4-1 through V-4-6) (i.e., the vents associated with the perimeter cutoff trenches) resulted in no methane detections at concentrations above the LEL at any of the 14 vents. In addition, monitoring of the air within the storage shed resulted in no detection of methane.

Monitoring of the nine permanent landfill gas monitoring probes located outside the landfill property boundary (GW-5 through GW-10 and GW-15 through GW-17) resulted in no methane detections at concentrations above LEL in any of the nine gas probes.

Pursuant to the contingency actions outlined in Section 4.3 of the LGMP, seven additional temporary boreholes (BH-2-01, BH-13-01 through BH-13-05, and BH-14-01) were installed outside the landfill proper and monitored to delineate the extent of methane concentrations above the LEL to the east of gas probe GW-2, west and north of gas probe GW-13, and west of gas probe GW-14, respectively (see Figure 1 for monitoring locations). Monitoring results indicated that methane concentrations were above the LEL in two of the seven temporary boreholes (i.e., BH-13-01 and BH-13-03). Stepping out from BH-13-01 and BH-13-03, monitoring results indicated that methane concentrations were below the LEL at temporary borehole BH-13-02, which was installed to the west of BH-13-01; and at temporary boreholes BH-13-04 and BH-13-05, which were installed to the west and north of temporary borehole BH-13-03, along the west side of the OU and inside the property boundary. However, per MDEQ's request, Georgia-Pacific is currently evaluating the need and feasibility of extending the existing landfill gas cutoff trench (located on the west side of the KHL) to the north, based on the elevated methane concentrations consistently detected in gas probe GW-13 and a few of the surrounding temporary borehole locations.

Due to the drop in the ground surface elevation between gas probe GW-13 and the fenceline to the west (referred to in this Report as the western side slope), it appears more likely that gas would migrate outward (horizontally) from the landfill only to a limited extent at which point the gas would intersect the ground surface of the western side slope and then be expressed to the atmosphere. It is noted that the western side slope extends south beyond the northern limit of the existing gas cutoff trench to the northwest corner of the landfill. Based on the results of gas monitoring performed along the length of the western side slope, it is also appears likely that the gas is expressed to the atmosphere some distance upgradient from the side slope toe (i.e., upslope from the western fence line). Further, the location of the existing City of Kalamazoo sanitary sewer line and the limited area of Georgia-Pacific property west of GW-13 significantly complicates the extension of the gas cutoff trench. Georgia-Pacific plans to propose further site investigation to evaluate the



Mr. Keith Krawczyk  
December 10, 2012

need for additional controls in this area. The investigation plan will be submitted for agency review and approval within the next 30 days.

Additional temporary boreholes were not installed and monitored to delineate the extent of methane concentrations above the LEL to the south of gas probe GW-1, as monitoring results associated with permanent gas probes GW-5, GW-6, GW-7, and GW-10 (located south of gas probe GW-1) indicated methane concentrations were below the LEL. Additional temporary boreholes were not installed and monitored to delineate the extent of methane concentrations above the LEL to the north of gas probe GW-3, as MDEQ indicated that delineation around gas probe GW-3 could be performed annually.

It is anticipated that the next round of data collection (i.e., the 2013 first quarter post-closure landfill gas monitoring event) will be conducted in February 2013.

If you have any questions or comments, please do not hesitate to contact me at 315.671.9233.

Sincerely,

ARCADIS

A handwritten signature in black ink, appearing to read "Patrick McGuire".

Patrick McGuire  
Principal Environmental Engineer

#### Attachments

Copies:

Garry Griffith, P.E., Georgia-Pacific LLC (transmitted via e-mail)  
Michael Berkoff, USEPA Region 5  
Steve Taplin, Terra Contracting, LLC (transmitted via e-mail)  
Dawn Penniman, P.E., ARCADIS



## Tables

**Georgia-Pacific, LLC**  
**Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site**  
**King Highway Landfill Operable Unit 3**  
**Landfill Gas Monitoring Program**

**Table 1 - Summary of November 8, 2012 Post-Closure Landfill Gas Monitoring Results**

Sample Location	CH <sub>4</sub> (%)	CO <sub>2</sub> (%)	O <sub>2</sub> (%)	Balance Nitrogen (%)
GW-1	57.3	42.5	0.0	0.2
GW-2	49.6	39.0	0.0	11.4
GW-3	22.0	18.5	0.8	58.7
GW-4	60.4	38.9	0.0	0.7
GW-5	0.0	11.4	8.4	80.2
GW-6	0.0	4.7	16.0	79.3
GW-7	0.0	2.7	17.8	79.5
GW-8	0.0	11.2	9.3	79.5
GW-9	0.0	3.0	17.1	79.9
GW-10	0.0	10.9	8.1	81.0
GW-11	0.0	10.1	9.8	80.1
GW-12	0.0	4.2	15.8	80.0
GW-13	58.0	40.7	0.7	0.6
GW-14	15.7	7.8	1.2	75.3
GW-15	0.0	7.3	11.4	81.3
GW-16	0.0	5.2	16.0	78.8
GW-17	0.0	5.3	15.9	78.8
BH-2-01	0.0	3.0	15.9	81.1
BH-13-01	60.0	38.6	1.4	0.0
BH-13-02	0.0	1.2	12.9	85.9
BH-13-03	20.8	19.0	6.0	54.2
BH-13-04	0.0	3.6	16.2	80.2
BH-13-05	0.0	0.7	19.5	79.8
BH-14-01	0.0	0.5	19.3	80.2
V-1-1	38.8	33.5	5.3	22.4
V-1-2	0.7	2.7	18.2	78.4
V-1-3	0.0	0.1	20.6	79.3
V-1-4	0.0	0.1	20.7	79.2
V-1-5	0.0	0.1	20.6	79.3
V-1-6	0.0	0.3	20.5	79.2
V-2-1	0.0	0.1	20.2	79.7
V-2-2	4.7	2.4	18.0	74.9
V-2-3	0.0	0.1	20.6	79.3
V-2-10	0.0	0.1	20.6	79.3
V-2-18	0.0	0.1	20.6	79.3
V-3-1	0.0	0.1	20.2	79.7
V-4-1	0.4	0.5	20.1	79.0
V-4-2	0.0	0.1	20.3	79.6
V-4-3	0.0	0.8	19.6	79.6
V-4-4	0.0	0.1	20.2	79.7
V-4-5	0.0	0.5	19.8	79.7
V-4-6	0.0	0.1	19.8	80.1
Storage Shed	0.0	0.0	20.7	79.3

**Notes:**

1. Landfill gas monitoring results provided by ARCADIS using a GEM™ 500 portable gas analyzer.
2. CH<sub>4</sub> = Methane.
3. CO<sub>2</sub> = Carbon Dioxide.
4. O<sub>2</sub> = Oxygen.
5. GW = Permanent gas monitoring probe.
6. BH = Temporary borehole.
7. V = Permanent gas vent.
8. Shaded methane results exceed the associated lower explosive limit (5%).

**Georgia-Pacific, LLC**  
**Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site**  
**King Highway Landfill Operable Unit 3**  
**Landfill Gas Monitoring Program**

**Table 2 - Summary of Post-Closure Landfill Gas Monitoring Results**

Sample Location	Date	CH <sub>4</sub> (%)	CO <sub>2</sub> (%)	O <sub>2</sub> (%)	Balance Nitrogen (%)
GW-1	4/28/2003	46.3	42.9	1.9	8.9
GW-2	4/28/2003	47.2	29.5	4	19.3
GW-3	4/28/2003	74.1	19.1	0.6	6.3
GW-4	4/28/2003	47.1	39.9	2.6	10.4
BH-2	4/27/2003	52.3	46.8	0	0.9
BH-4	4/28/2003	17.8	8.8	9.8	63.6
BH-5	4/27/2003	2.8	5.2	15.2	76.8
BH-8	4/28/2003	55.4	43	0	1.6
BH-9	4/29/2003	26.6	33.2	2.2	38
BH-10	4/27/2003	0	0.7	18.6	80.7
BH-11	4/28/2003	0.3	4.3	13.3	82.1
BH-12	4/28/2003	0	0.3	20	79.7
BH-13	4/28/2003	0	1.3	19.3	79.4
BH-14	4/28/2003	0	1.9	17.7	80.4
BH-15	4/28/2003	9	4.3	9.7	77
BH-16	4/28/2003	0	1.4	18.7	79.9
BH-17	4/28/2003	0	0	20.5	79.5
BH-18	4/28/2003	1.3	0.7	19.7	78.3
GW-1	8/14/2003	49.6	43.7	1	5.7
GW-2	8/14/2003	59.2	35.2	0.9	4.7
GW-3	8/14/2003	48.6	30	1.6	19.8
GW-4	8/14/2003	41.4	43	0.2	15.4
BH-105	8/14/2003	46.8	43.6	0.8	8.8
BH-106	8/14/2003	4.1	16	2.1	77.8
BH-107	8/14/2003	29.6	27.9	2.9	39.6
BH-108	8/14/2003	1.8	11	10.6	76.6
BH-109	8/14/2003	3.6	3.2	15.3	77.9
BH-110	8/14/2003	0	1.1	18.9	80
BH-111	8/14/2003	0	9.3	6.6	84.1
BH-112	8/14/2003	27.6	29.6	0.9	41.9
BH-113	8/14/2003	31	26.2	3.7	39.1
BH-114	8/14/2003	0	1.1	18.6	80.3
BH-115	8/15/2003	36.2	25.9	1.9	36
BH-116	8/14/2003	0	5.1	11.4	83.5
BH-117	8/14/2003	0	1.6	17.3	81.1
BH-118	8/14/2003	31.2	34.3	1.5	33
BH-119	8/14/2003	33.5	26.5	4.4	35.6
BH-120	8/14/2003	3.8	7.2	14.4	74.6
BH-121	8/14/2003	0	0.1	19	80.9
BH-122	8/14/2003	0.6	0.8	18.9	79.7
GW-1	11/12/2003	56.9	42.4	0.5	0.2
GW-2	11/12/2003	65.9	33.4	0.5	0.2
GW-3	11/12/2003	68.7	28.1	3.1	0.1
GW-4	11/12/2003	59.2	34	6.7	0.1
V-1	11/12/2003	72.2	27.2	0.5	0.1
V-2	11/12/2003	51.9	28.7	4.5	14.9
V-3	11/12/2003	66.4	32.9	0.6	0.1
BH-202	11/12/2003	57.5	39.7	2.6	0.2
BH-203	11/12/2003	0.2	0.2	20.1	79.5
BH-204	11/12/2003	41.9	13.3	11	33.8
BH-205	11/12/2003	0.1	0	20.7	79.2
BH-206	11/12/2003	1.4	3.3	8.6	86.7
BH-207	11/12/2003	12.2	11.8	8.7	67.3
BH-208	11/12/2003	66	29.2	2.3	2.5
BH-209	11/12/2003	24.4	8.5	1.9	65.2
BH-210	11/12/2003	0.1	3	16.7	80.2
BH-211	11/12/2003	28.8	5.6	13.2	52.4
BH-212	11/12/2003	16.6	9.2	2.2	72
BH-213	11/13/2003	15.5	4.8	15.5	64.2
BH-214	11/12/2003	0.5	1.4	18.1	80
BH-215	11/12/2003	0.1	2.1	17.4	80.4
BH-216	11/12/2003	0	0	20.9	79.1
BH-217	11/12/2003	0	0.8	20.6	78.6
BH-218	11/12/2003	0	1.2	19.8	79
BH-219	11/12/2003	0	0	21.1	78.9

See Notes on Page 21.

**Georgia-Pacific, LLC**  
**Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site**  
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**Table 2 - Summary of Post-Closure Landfill Gas Monitoring Results**

Sample Location	Date	CH <sub>4</sub> (%)	CO <sub>2</sub> (%)	O <sub>2</sub> (%)	Balance Nitrogen (%)
BH-220	11/12/2003	0	0	20.8	79.2
BH-221	11/12/2003	0.1	5.7	8.5	85.7
BH-222	11/12/2003	0	1.5	17.9	80.6
BH-223	11/12/2003	0	1.2	19.4	79.4
BH-230	11/12/2003	65.6	23.8	0.7	9.9
BH-231	11/12/2003	0.5	0.9	20.5	78.1
BH-232	11/12/2003	57.7	30.1	3.2	9
BH-233	11/12/2003	0.6	0.1	18.5	80.8
BH-234	11/12/2003	0.1	0.9	19.8	79.2
GW-1	12/8/2003	57.3	42.1	0.4	0.2
GW-2	12/8/2003	65.4	32.0	0.7	1.9
GW-3	12/8/2003	65.9	14.6	0.8	18.7
GW-4	12/8/2003	63.0	36.1	0.8	0.1
BH-301	12/8/2003	55.6	26.3	4.1	14.0
BH-302	12/8/2003	6.4	2.1	16.7	74.8
BH-303	12/8/2003	9.7	6.7	14.5	69.1
BH-304	12/8/2003	4.2	6.9	9.3	79.6
BH-305	12/8/2003	60.3	33.4	1.6	4.7
BH-306	12/9/2003	5.5	2.8	14.7	77.0
BH-307	12/8/2003	2.4	1.6	17.3	78.7
BH-312	12/8/2003	0	0.5	20.3	79.2
BH-313	12/8/2003	31.7	12.6	8.2	47.5
BH-314	12/8/2003	0	1.8	17.7	80.5
BH-315	12/9/2003	2.9	4.4	12.3	80.4
BH-316	12/8/2003	0	0.1	20.4	79.5
BH-317	12/8/2003	0	4.2	15.2	80.6
BH-318	12/8/2003	0	0.3	19.0	80.7
GW-1	2/24/2004	21.3	17.8	10.1	50.8
GW-2	2/24/2004	34.9	24	6.4	34.7
GW-3	2/24/2004	0.1	0	19.5	80.4
GW-3	2/24/2004	0	0	20.1	79.9
GW-4	2/24/2004	8	6.5	16.1	69.4
GW-4	2/24/2004	0	0	19.2	80.8
V-1	2/24/2004	0	0	20.1	79.9
V-2	2/24/2004	13.5	7.3	16	63.2
V-3	2/24/2004	39	20.3	10.1	30.6
BH-10	2/24/2004	19.4	12.1	16.6	51.9
BH-105	2/24/2004	19.1	8.1	9.9	62.9
BH-106	2/24/2004	3.1	1.3	17.8	77.8
BH-107	2/24/2004	15.3	12.4	9.3	63
BH-108	2/24/2004	2.1	1.8	16.4	79.7
BH-110	2/24/2004	15.2	11.7	4.9	68.2
BH-111	2/24/2004	7.6	5	11.1	76.3
BH-112	2/24/2004	0.6	2.2	18.4	78.8
BH-113	2/24/2004	0	2.3	15.9	81.8
BH-114	2/24/2004	0	0.5	18.3	81.2
BH-115	2/24/2004	0	0	19.9	80.1
BH-116	2/24/2004	0	0.7	16.8	82.5
BH-117	2/24/2004	0	0	19.6	80.4
BH-118	2/24/2004	0	0.1	19	80.9
BH-119	2/24/2004	20.6	7.7	10	61.7
BH-120	2/24/2004	2.4	7	13	77.6
BH-126	2/24/2004	33.1	16.5	14.3	36.1
BH-127	2/24/2004	19.5	10.8	13.9	55.8
BH-128	2/24/2004	0	0	19.9	80.1
BH-129	2/24/2004	42.3	26.2	15.7	15.8
BH-130	2/24/2004	1.3	0.6	19.2	78.9
BH-131	2/24/2004	54.9	32.3	12.6	0.2
BH-132	2/24/2004	0.8	0.4	18.3	80.5
BH-133	2/24/2004	0	0.7	19.5	79.8
GW-1	5/20/2004	51.3	32.3	0.1	16.3
GW-2	5/20/2004	62.0	37.3	0.5	0.2
GW-3	5/20/2004	69.2	30.2	0.4	0.2
GW-4	5/20/2004	54.7	45.1	0.1	0.1
V-1	5/20/2004	55.3	22.9	6.2	15.6

See Notes on Page 21.

**Georgia-Pacific, LLC**  
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**Table 2 - Summary of Post-Closure Landfill Gas Monitoring Results**

Sample Location	Date	CH <sub>4</sub> (%)	CO <sub>2</sub> (%)	O <sub>2</sub> (%)	Balance Nitrogen (%)
V-2	5/20/2004	54.0	30.0	4.3	11.7
V-3	5/20/2004	59.3	40.2	0.3	0.2
BH-208	5/20/2004	0.4	1.6	19.9	78.1
BH-209	5/20/2004	0.2	0.5	19.5	79.8
BH-210	5/20/2004	14.1	12.1	5.2	68.6
BH-211	5/20/2004	0.1	2.8	18.1	79.0
BH-212	5/20/2004	28.3	13.5	3.8	54.4
BH-213	5/20/2004	0.2	2.7	16.5	80.6
BH-214	5/20/2004	0.1	1.9	18.5	79.5
BH-215	5/20/2004	67.9	21.9	1.8	8.4
BH-216	5/20/2004	0	1.7	19.0	79.3
BH-217	5/20/2004	0	3.5	15.7	80.8
BH-218	5/20/2004	24.9	23.8	4.6	46.7
BH-219	5/20/2004	8.8	10.2	10.9	70.1
BH-220	5/20/2004	0.2	0.7	20.4	78.7
BH-221	5/20/2004	10.4	7.9	7.3	74.4
BH-222	5/20/2004	17.0	8.9	5.0	69.1
BH-223	5/20/2004	0	0.1	21.1	78.8
BH-224	5/20/2004	0	7.1	9.5	83.4
BH-225	5/20/2004	0	1.9	19.4	78.7
BH-226	5/20/2004	0	2.0	17.1	80.9
BH-227	5/20/2004	0	1.0	20.1	78.9
BH-228	5/20/2004	15.8	11.7	11.7	60.8
BH-229	5/20/2004	7.3	9.4	8.0	75.3
BH-230	5/20/2004	2.0	2.4	16.4	79.3
BH-231	5/20/2004	44.8	40.2	1.9	13.1
BH-232	5/20/2004	1.3	2.1	16.0	80.6
BH-233	5/20/2004	0	0.1	21.2	78.7
BH-234	5/20/2004	45.5	36.8	2.2	15.5
BH-235	5/20/2004	8.8	3.3	17.7	70.2
BH-236	5/20/2004	2.1	1.0	17.6	79.3
BH-237	5/20/2004	0.5	1.5	18.6	79.4
GW-1	9/29/2004	41.9	35.4	4.2	18.5
GW-2	9/29/2004	37.8	24.9	7.7	29.6
GW-3	9/29/2004	36.2	25.7	5.4	32.7
GW-4	9/29/2004	35.7	32.9	5.3	26.1
V-1-1	9/29/2004	27.4	22.2	10.4	40
V-2-1	9/29/2004	44.1	19.4	7.2	29.3
V-2-2	9/29/2004	33.7	20.4	9.7	36.2
V-4-1	9/29/2004	0	0.4	20.6	79
V-4-2	9/29/2004	0	0.3	20.6	79.1
V-4-3	9/29/2004	0	0	20.7	79.3
BH-101	9/29/2004	43.7	39.6	2.5	14.2
BH-102	9/29/2004	34.7	38.3	1.1	25.9
BH-103	9/29/2004	16.9	31.9	0.8	50.4
BH-104	9/29/2004	11.1	26.7	2.9	59.3
BH-105	9/29/2004	11.1	27.3	0.9	60.7
BH-106	9/29/2004	42.1	21.3	8.2	28.4
BH-107	9/29/2004	1.3	1.4	18	79.3
BH-108	9/29/2004	43.4	28.9	1	26.7
BH-109	9/29/2004	26.2	9.4	2.2	62.2
BH-110	9/29/2004	1.5	9.8	7.1	81.6
BH-111	9/29/2004	0	6.8	12.9	80.3
BH-112	9/29/2004	1.4	11.2	3.6	83.8
BH-113	9/29/2004	0.5	2.6	17.1	79.8
BH-114	9/29/2004	25.4	11.2	2.4	61
BH-201	9/29/2004	46.7	13.7	2.8	36.8
BH-202	9/29/2004	42.2	17.7	7.9	32.2
BH-203	9/29/2004	0	1.4	19.4	79.2
GW-1	12/16/2004	56.6	43.4	0	0
GW-2	12/16/2004	55.3	33.9	0	10.8
GW-3	12/16/2004	40.5	14.7	0.3	44.5
GW-4	12/16/2004	59.4	37.0	1.1	2.5
V-1-1	12/16/2004	60.7	38.9	0.4	0
V-2-1	12/16/2004	35.9	16.7	6.3	41.1

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**Georgia-Pacific, LLC**  
**Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site**  
**King Highway Landfill Operable Unit 3**  
**Landfill Gas Monitoring Program**

**Table 2 - Summary of Post-Closure Landfill Gas Monitoring Results**

Sample Location	Date	CH <sub>4</sub> (%)	CO <sub>2</sub> (%)	O <sub>2</sub> (%)	Balance Nitrogen (%)
V-2-2	12/16/2004	46.8	22.4	6.8	24.0
V-4-1	12/16/2004	3.9	2.2	19.0	74.9
V-4-2	12/16/2004	0	0	20.4	79.6
V-4-3	12/16/2004	0	0	20.4	79.6
BH-101	12/16/2004	1.4	0.9	19.9	77.8
BH-102	12/16/2004	57.6	7.2	1.4	33.8
BH-103	12/16/2004	0	1.9	18.3	79.8
BH-104	12/16/2004	0	1.5	18.0	80.5
BH-105	12/16/2004	0.2	0.5	18.4	80.9
BH-106	12/16/2004	0	0.7	18.5	80.8
BH-107	12/16/2004	2.5	0.9	17.8	78.8
BH-201	12/16/2004	0	1.7	16.1	82.2
BH-202	12/16/2004	0.1	0.4	19.4	80.1
BH-203	12/16/2004	12.0	4.4	12.6	71.0
BH-204	12/16/2004	56.1	13.5	5.3	25.1
BH-205	12/16/2004	5.6	0.8	15.8	77.8
BH-301	12/16/2004	0	9.7	8.5	81.8
BH-401	12/16/2004	64.7	34.5	0.5	0.3
BH-402	12/16/2004	0.1	0.3	17.8	81.8
GW-1	3/15/2005	52.6	42.2	1.3	3.9
GW-2	3/15/2005	0.2	1.6	18.8	79.4
GW-3	3/15/2005	0	0	20.8	79.2
GW-4	3/15/2005	58.3	38.1	1.5	2.1
V-1-1	3/15/2005	20.4	11.2	15.2	53.2
V-2-1	3/15/2005	0	0	20.8	79.2
V-2-2	3/15/2005	5.3	1.8	19.3	73.6
V-4-1	3/15/2005	0	0.1	19.6	80.3
V-4-2	3/15/2005	2.7	1.6	19.0	76.7
V-4-3	3/15/2005	2.5	2.2	19.1	76.2
BH-101	3/15/2005	1.4	0.4	20.3	77.9
BH-104	3/15/2005	0.6	0.4	20.1	78.9
BH-105	3/15/2005	0	2.3	13.4	84.3
BH-107	3/15/2005	3.4	0.3	19.1	77.2
GW-1	5/26/2005	54.5	44.7	0.6	0.2
GW-2	5/26/2005	58.5	39.5	0.0	2.0
GW-3	5/26/2005	58.7	30.4	0.2	10.7
GW-4	5/26/2005	42.2	38.4	0.4	19.0
GW-5	5/26/2005	0.8	0.4	18.1	80.7
GW-6	5/26/2005	0.7	1.3	19.7	78.3
GW-7	5/26/2005	0.2	1.6	16.9	81.3
GW-8	5/26/2005	0.0	10.7	2.8	86.5
GW-9	5/26/2005	0.2	3.0	16.0	80.8
V-1-1	5/26/2005	12.2	7.9	17.1	62.8
V-2-1	5/26/2005	14.0	5.9	15.9	64.2
V-2-2	5/26/2005	23.3	13.0	12.6	51.1
V-3-1	5/26/2005	5.2	2.0	18.3	74.5
V-4-1	5/26/2005	3.6	4.1	16.0	76.3
V-4-2	5/26/2005	2.3	2.1	19.6	76.0
V-4-3	5/26/2005	1.6	2.4	18.7	77.3
BH-101	5/26/2005	1.2	2.4	18.3	78.1
BH-102	5/26/2005	0.6	1.1	15.4	82.9
BH-103	5/26/2005	0.0	0.9	19.3	79.8
BH-201	5/26/2005	10.9	6.4	15.4	67.3
BH-202	5/26/2005	0.3	1.0	18.8	79.9
BH-203	5/26/2005	0.4	1.2	12.8	85.6
BH-301	5/26/2005	3.0	6.1	12.7	78.2
BH-302	5/26/2005	4.3	11.0	73.9	10.8
BH-303	5/26/2005	3.8	9.4	11.7	75.1
BH-304	5/26/2005	0.0	0.4	20.0	79.6
GW-1	8/18/2005	51.0	44.8	0.3	3.9
GW-2	8/18/2005	53.3	36.9	1.5	8.3
GW-3	8/18/2005	52.6	33.9	0.0	13.5
GW-4	8/18/2005	48.2	45.1	0.0	6.7
GW-5	8/18/2005	40.0	13.8	0.3	45.9
GW-6	8/18/2005	51.9	43.7	0.0	4.4

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**Georgia-Pacific, LLC**  
**Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site**  
**King Highway Landfill Operable Unit 3**  
**Landfill Gas Monitoring Program**

**Table 2 - Summary of Post-Closure Landfill Gas Monitoring Results**

Sample Location	Date	CH <sub>4</sub> (%)	CO <sub>2</sub> (%)	O <sub>2</sub> (%)	Balance Nitrogen (%)
GW-7	8/18/2005	0.0	3.8	16.5	79.7
GW-8	8/18/2005	5.8	10.1	0.2	83.9
GW-9	8/18/2005	0.0	7.2	12.5	80.3
GW-10	8/18/2005	0.0	12.9	4.8	82.3
GW-11	8/18/2005	0.0	18.9	2.7	78.4
V-1-1	8/18/2005	52.3	47.6	0.0	0.1
V-2-2	8/18/2005	39.5	26.8	6.5	27.2
V-3-1	8/18/2005	14.9	16.4	8.3	60.4
V-4-1	8/18/2005	14.1	18.0	8.1	59.8
V-4-2	8/18/2005	20.6	24.1	6.0	49.3
V-4-3	8/18/2005	17.5	19.9	9.2	53.4
BH-101	8/18/2005	59.9	20.8	0.1	19.2
BH-102	8/18/2005	44.4	40.2	0.7	14.7
BH-103	8/18/2005	0.0	3.1	17.9	79.0
BH-104	8/18/2005	12.3	4.0	14.3	69.4
BH-105	8/18/2005	0.0	2.6	18.1	79.3
BH-106	8/18/2005	0.0	1.0	20.6	78.4
BH-201	8/18/2005	22.0	21.8	0.5	55.7
BH-202	8/18/2005	0.0	12.2	9.0	78.8
BH-203	8/18/2005	22.4	9.7	12.9	55.0
BH-204	8/18/2005	26.7	18.9	2.9	51.5
BH-205	8/18/2005	0.8	2.2	0.7	96.3
BH-301	8/18/2005	16.8	23.1	0.7	59.4
BH-302	8/18/2005	0.0	10.9	7.1	82.0
BH-303	8/18/2005	25.3	23.0	0.5	51.2
BH-304	8/18/2005	11.4	15.0	3.1	70.5
BH-305	8/18/2005	0.1	11.3	9.4	79.2
BH-306	8/18/2005	0.0	6.4	16.1	77.5
BH-307	8/18/2005	0.0	5.5	17.5	77.0
BH-701	8/18/2005	0.0	3.1	18.3	78.6
BH-801	8/18/2005	0.0	1.2	20.4	78.4
BH-802	8/18/2005	0.0	1.9	19.8	78.3
BH-100	8/18/2005	0.0	7.4	12.1	80.5
BH-100	8/18/2005	0.0	0.5	20.5	79.0
BH-110	8/18/2005	0.0	3.6	18.2	78.2
BH-110	8/18/2005	0.0	10.2	11.6	78.2
GW-1	11/8/2005	53.2	45.3	0.2	1.3
GW-2	11/8/2005	41.8	30.6	3.2	24.4
GW-3	11/8/2005	6.2	8.0	14.5	71.3
GW-4	11/8/2005	48.8	39.0	0.4	11.8
GW-5	11/8/2005	24.5	12.6	0.2	62.7
GW-6	11/8/2005	53.6	39.4	0.4	6.6
GW-7	11/8/2005	0.0	3.2	16.8	80.0
GW-8	11/8/2005	0.0	13.4	0.6	86.0
GW-9	11/8/2005	0.0	3.8	15.4	80.8
GW-10	11/8/2005	0.0	9.5	7.0	83.5
GW-11	11/8/2005	0.0	12.1	6.0	81.9
BH-101	11/8/2005	27.0	13.8	5.3	53.9
BH-102	11/8/2005	26.0	32.5	0.3	41.2
BH-103	11/8/2005	0.0	2.1	17.4	80.5
BH-104	11/8/2005	0.0	8.1	7.6	84.3
BH-201	11/8/2005	22.5	23.5	0.4	53.6
BH-202	11/8/2005	0.0	6.2	13.8	80.0
BH-301	11/8/2005	0.0	18.4	1.7	79.9
BH-601	11/8/2005	5.4	12.2	0.4	82.0
BH-602	11/8/2005	0.0	3.5	15.8	80.7
V-1-1	11/8/2005	54.2	45.2	0.6	0.0
V-2-1	11/8/2005	10.0	6.9	14.5	68.6
V-2-2	11/8/2005	47.4	28.1	5.8	18.7
V-3-1	11/8/2005	5.6	2.0	18.9	73.5
V-4-1	11/8/2005	1.0	2.9	17.7	78.4
V-4-2	11/8/2005	0.0	0.0	20.5	79.5
V-4-3	11/8/2005	3.3	7.0	13.8	75.9
GW-1	2/8/2006	56.0	43.7	0.3	0.0
GW-2	2/8/2006	41.0	24.9	2.5	31.6

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**Georgia-Pacific, LLC**  
**Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site**  
**King Highway Landfill Operable Unit 3**  
**Landfill Gas Monitoring Program**

**Table 2 - Summary of Post-Closure Landfill Gas Monitoring Results**

Sample Location	Date	CH <sub>4</sub> (%)	CO <sub>2</sub> (%)	O <sub>2</sub> (%)	Balance Nitrogen (%)
GW-3	2/8/2006	0.8	4.8	10.3	84.1
GW-4	2/8/2006	63.1	36.2	0.7	0.0
GW-5	2/8/2006	36.7	4.0	1.0	58.3
GW-6	2/8/2006	83.7	14.3	0.0	2.0
GW-7	2/8/2006	0.0	1.5	17.7	80.8
GW-8	2/8/2006	20.0	5.5	1.9	72.6
GW-9	2/8/2006	0.0	4.3	15.1	80.6
GW-10	2/8/2006	0.0	7.4	1.4	91.2
GW-11	2/8/2006	0.0	1.2	19.0	79.8
BH-201 <sup>4</sup>	2/8/2006	6.1	4.2	13.3	76.4
BH-501	2/8/2006	0.1	1.0	16.1	82.8
BH-502	2/8/2006	0.0	0.2	17.9	81.9
BH-801	2/8/2006	0.0	4.4	15.5	80.1
BH-430	2/8/2006	32.9	18.1	3.5	45.5
BH-430	2/8/2006	34.2	22.9	0.0	42.9
BH-430	2/8/2006	7.6	7.9	11.9	72.6
BH-430	2/8/2006	0.7	0.4	17.3	81.6
V-1-1	2/8/2006	56.8	39.6	3.6	0.0
V-2-1	2/8/2006	16.2	6.5	15.8	61.5
V-2-2	2/8/2006	29.6	10.5	13.5	46.4
V-3-1	2/8/2006	2.8	0.7	20.5	76.0
V-4-1	2/8/2006	0.5	0.5	19.0	80.0
V-4-2	2/8/2006	0.0	0.1	19.0	80.9
V-4-3	2/8/2006	22.1	11.5	11.1	55.3
GW-1	5/8/2006	52.8	47.2	0.0	0.0
GW-2	5/8/2006	58.2	40.4	0.0	1.4
GW-3	5/8/2006	66.2	28.0	0.0	5.8
GW-4	5/8/2006	0.0	46.3	0.0	53.7
GW-5	5/8/2006	31.6	4.5	0.0	63.9
GW-6	5/8/2006	61.8	29.4	0.0	8.8
GW-7	5/8/2006	0.0	1.5	16.1	82.4
GW-8	5/8/2006	15.8	6.3	0.0	77.9
GW-9	5/8/2006	0.0	7.4	6.6	86.0
GW-10	5/8/2006	0.0	0.3	18.3	81.4
GW-11	5/8/2006	0.0	10.1	3.8	86.1
GW-12	5/8/2006	0.0	10.4	6.1	83.5
BH-201	5/8/2006	49.5	21.2	0.0	29.3
BH-202	5/8/2006	0.1	4.2	12.1	83.6
BH-301	5/8/2006	15.5	12.0	6.5	66.0
BH-302	5/8/2006	25.4	18.8	0.0	55.8
BH-303	5/8/2006	0.0	0.4	18.3	81.3
BH-304	5/8/2006	13.7	7.9	5.9	72.5
BH-305	5/8/2006	4.7	3.8	9.9	81.6
BH-306 <sup>5</sup>	5/8/2006	—	—	—	—
BH-307	5/8/2006	9.0	11.1	0.0	79.9
BH-308 <sup>5</sup>	5/8/2006	—	—	—	—
BH-309	5/8/2006	0.0	0.4	18.2	81.4
BH-310	5/8/2006	38.1	7.5	0.0	54.4
BH-311	5/8/2006	0.0	0.4	18.3	81.3
BH-312	5/8/2006	0.8	6.8	6.2	86.2
BH-501	5/8/2006	0.0	0.9	17.2	81.9
BH-502	5/8/2006	0.0	4.1	7.4	88.5
BH-601	5/8/2006	51.1	8.6	0.0	40.3
BH-801	5/8/2006	3.4	12.8	0.0	83.8
BH-802	5/8/2006	0.0	0.8	16.7	82.5
V-1-1	5/8/2006	52.3	46.7	0.0	1.0
V-2-1	5/8/2006	44.0	29.7	0.0	26.3
V-2-2	5/8/2006	53.5	23.9	5.5	17.1
V-3-1	5/8/2006	26.4	9.4	12.2	52.0
V-4-1	5/8/2006	0.0	0.0	20.3	79.7
V-4-2	5/8/2006	0.0	0.0	20.5	79.5
V-4-3	5/8/2006	0.0	0.1	20.1	79.8
V-4-4	5/8/2006	0.0	0.0	20.2	79.8

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**Georgia-Pacific, LLC**  
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**King Highway Landfill Operable Unit 3**  
**Landfill Gas Monitoring Program**

**Table 2 - Summary of Post-Closure Landfill Gas Monitoring Results**

Sample Location	Date	CH <sub>4</sub> (%)	CO <sub>2</sub> (%)	O <sub>2</sub> (%)	Balance Nitrogen (%)
V-4-5	5/8/2006	0.0	0.8	19.0	80.2
V-4-6	5/8/2006	0.0	0.0	20.0	80.0
GW-1	9/7/2006	53.6	46.4	0.0	0.0
GW-2	9/7/2006	42.0	30.2	5.7	22.1
GW-3	9/7/2006	49.9	26.5	3.2	20.4
GW-4	9/7/2006	50.4	44.9	0.9	3.8
GW-5	9/7/2006	46.1	8.7	0.0	45.2
GW-6	9/7/2006	60.7	38.2	0.0	1.1
GW-7	9/7/2006	0.0	5.0	14.8	80.2
GW-8	9/7/2006	34.6	5.8	0.0	59.6
GW-9	9/7/2006	1.4	13.5	0.1	85.0
GW-10	9/7/2006	0.0	0.6	20.2	79.2
GW-11	9/7/2006	0.3	8.0	7.1	84.6
GW-12	9/7/2006	0.0	0.1	20.8	79.1
BH-201	9/7/2006	29.7	14.1	9.5	46.7
BH-202	9/7/2006	0.0	1.3	19.8	78.9
BH-301	9/7/2006	0.8	2.7	18.1	78.4
BH-302	9/7/2006	3.8	3.7	17.3	75.2
BH-303	9/7/2006	12.3	16.1	3.7	67.9
BH-304	9/7/2006	4.0	1.5	19.0	75.5
BH-305	9/7/2006	0.0	2.4	19.1	78.5
BH-501	9/7/2006	0.0	2.3	18.2	79.5
BH-502	9/7/2006	1.0	2.8	16.0	80.2
BH-601	9/7/2006	0.0	0.2	20.9	78.9
BH-801	9/7/2006	0.0	3.0	17.8	79.2
BH-802	9/7/2006	4.4	3.1	13.7	78.8
V-1-1	9/7/2006	30.7	28.6	8.7	32.0
V-2-1	9/7/2006	25.5	12.6	12.6	49.3
V-2-2	9/7/2006	18.6	11.3	14.1	56.0
V-3-1	9/7/2006	2.6	1.5	20.1	75.8
V-4-1	9/7/2006	0.0	0.1	20.8	79.1
V-4-2	9/7/2006	0.0	0.2	2.9	96.9
V-4-3	9/7/2006	0.0	0.0	20.8	79.2
V-4-4	9/7/2006	0.0	0.0	20.9	79.1
V-4-5	9/7/2006	0.0	0.1	20.8	79.1
V-4-6	9/7/2006	0.0	0.1	20.9	79.0
GW-1	11/8/2006	54.9	45.1	0.0	0.0
GW-2	11/8/2006	54.2	35.8	0.0	10.0
GW-3	11/8/2006	63.1	25.5	0.0	11.4
GW-4	11/8/2006	57.4	41.6	0.0	1.0
GW-5	11/8/2006	56.6	4.2	0.0	39.2
GW-6	11/8/2006	72.6	23.5	0.0	3.9
GW-7	11/8/2006	0.0	0.2	20.4	79.4
GW-8	11/8/2006	46.0	5.3	0.0	48.7
GW-9	11/8/2006	25.4	8.9	0.0	65.7
GW-10	11/8/2006	0.4	9.3	0.0	90.3
GW-11	11/8/2006	0.0	8.4	5.2	86.4
GW-12	11/8/2006	0.0	4.4	15.2	80.4
BH-201	11/8/2006	0.2	2.4	15.5	81.9
BH-301	11/8/2006	0.0	0.0	19.8	80.2
BH-501	11/8/2006	3.5	1.7	11.3	83.5
BH-502	11/8/2006	0.0	2.2	16.8	81.0
BH-801	11/8/2006	17.4	3.5	6.9	72.2
BH-802	11/8/2006	0.0	0.8	20.1	79.1
BH-901	11/8/2006	0.0	1.3	19.5	79.2
V-1-1	11/8/2006	54.9	43.8	0.0	1.3
V-2-1	11/8/2006	53.1	22.1	2.3	22.5
V-2-2	11/8/2006	51.4	27.2	0.0	21.4
V-3-1	11/8/2006	14.4	6.1	15.2	64.3
V-4-1	11/8/2006	17.4	15.2	9.9	57.5
V-4-2	11/8/2006	0.0	0.0	22.1	77.9
V-4-3	11/8/2006	5.8	8.3	13.1	72.8
V-4-4	11/8/2006	0.0	0.0	21.7	78.3

See Notes on Page 21.

**Georgia-Pacific, LLC**  
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**King Highway Landfill Operable Unit 3**  
**Landfill Gas Monitoring Program**

**Table 2 - Summary of Post-Closure Landfill Gas Monitoring Results**

Sample Location	Date	CH <sub>4</sub> (%)	CO <sub>2</sub> (%)	O <sub>2</sub> (%)	Balance Nitrogen (%)
V-4-5	11/8/2006	0.0	0.1	21.7	78.2
V-4-6	11/8/2006	0.0	0.0	21.8	78.2
GW-1	2/8/2007	54.9	44.5	0.0	0.6
GW-2	2/8/2007	40.5	27.9	0.8	30.8
GW-3	2/8/2007	34.8	9.6	2.8	52.8
GW-4 <sup>6</sup>	2/8/2007	60.5	39.5	0.0	0.0
GW-5	2/8/2007	49.9	3.3	0.0	46.8
GW-6 <sup>7</sup>	2/8/2007	17.6	2.8	16.2	63.4
GW-7	2/8/2007	0.0	0.1	20.8	79.1
GW-8	2/8/2007	0.9	2.5	14.0	82.6
GW-9	2/8/2007	0.0	0.7	19.9	79.4
GW-10	2/8/2007	0.0	7.3	1.4	91.3
GW-11	2/8/2007	0.0	0.2	20.7	79.1
GW-12	2/8/2007	0.0	0.8	19.6	79.6
BH-201	2/8/2007	0.0	0.1	21.1	78.8
BH-501	2/8/2007	0.0	0.1	20.6	79.3
BH-502	2/8/2007	0.0	0.1	20.6	79.3
V-1-1	2/8/2007	23.5	17.7	11.8	47.0
V-2-1	2/8/2007	6.4	3.3	18.5	71.8
V-2-2	2/8/2007	18.6	8.5	15.1	57.8
V-3-1	2/8/2007	5.9	1.7	19.4	73.0
V-4-1	2/8/2007	0.0	0.0	20.8	79.2
V-4-2	2/8/2007	0.0	0.0	20.8	79.2
V-4-3	2/8/2007	0.1	0.2	20.0	79.7
V-4-4	2/8/2007	0.0	0.1	20.8	79.1
V-4-5	2/8/2007	0.0	0.0	20.8	79.2
V-4-6	2/8/2007	0.0	0.0	20.8	79.2
GW-1	5/10/2007	52.8	46.8	0.2	0.2
GW-2	5/10/2007	61.5	38.0	0.2	0.3
GW-3	5/10/2007	46.8	20.0	20.1	13.1
GW-4	5/10/2007	50.2	44.6	0.4	4.8
GW-5	5/10/2007	26.2	6.4	1.6	65.8
GW-6	5/10/2007	64.5	24.9	0.4	10.2
GW-7	5/10/2007	0.0	1.6	18.6	79.8
GW-8	5/10/2007	17.0	7.8	0.4	74.8
GW-9	5/10/2007	0.0	14.4	0.9	84.7
GW-10	5/10/2007	0.0	1.1	18.9	80.0
GW-11	5/10/2007	0.0	4.1	13.3	82.6
GW-12	5/10/2007	0.0	3.0	15.0	82.0
BH-201	5/10/2007	0.0	0.7	20.0	79.3
BH-301	5/10/2007	0.0	0.5	20.4	79.1
BH-501	5/10/2007	0.0	0.8	20.2	79.0
BH-502	5/10/2007	0.0	2.4	17.1	80.5
BH-801	5/10/2007	0.0	1.8	19.0	79.2
BH-802	5/10/2007	0.0	0.4	20.6	79.0
V-1-1	5/10/2007	57.0	42.4	0.1	0.5
V-2-1	5/10/2007	35.0	15.0	9.6	40.4
V-2-2	5/10/2007	33.7	18.4	8.2	39.7
V-3-1	5/10/2007	4.0	1.8	19.2	75.0
V-4-1	5/10/2007	14.6	19.7	6.4	59.3
V-4-2	5/10/2007	7.0	4.1	18.2	70.7
V-4-3	5/10/2007	0.3	2.0	16.0	81.7
V-4-4	5/10/2007	0.0	0.4	20.7	78.9
V-4-5	5/10/2007	0.0	2.8	17.2	80.0
V-4-6	5/10/2007	0.0	5.2	16.1	78.7
GW-1	8/8/2007	50.5	45.0	0.0	4.5
GW-2	8/8/2007	41.5	36.6	0.0	21.9
GW-3	8/8/2007	33.0	24.9	5.5	36.6
GW-4	8/8/2007	40.7	41.5	0.0	17.8
GW-5	8/8/2007	8.6	11.2	0.6	79.6
GW-6	8/8/2007	4.6	6.0	14.0	75.4
GW-7	8/8/2007	0.0	2.2	15.7	82.1
GW-8	8/8/2007	0.0	7.2	11.1	81.7
GW-9	8/8/2007	0.0	5.4	12.4	82.2
GW-10	8/8/2007	0.0	3.4	13.6	83.0

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**Georgia-Pacific, LLC**  
**Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site**  
**King Highway Landfill Operable Unit 3**  
**Landfill Gas Monitoring Program**

**Table 2 - Summary of Post-Closure Landfill Gas Monitoring Results**

Sample Location	Date	CH <sub>4</sub> (%)	CO <sub>2</sub> (%)	O <sub>2</sub> (%)	Balance Nitrogen (%)
GW-11	8/8/2007	0.0	12.0	6.7	81.3
GW-12	8/8/2007	0.0	2.9	14.3	82.8
BH-201	8/8/2007	0.0	4.0	14.5	81.5
BH-301	8/8/2007	4.3	11.1	9.0	75.6
BH-501	8/8/2007	0.0	5.0	11.9	83.1
BH-502	8/8/2007	0.0	1.4	16.8	81.8
V-1-1	8/8/2007	51.8	47.2	0.0	1.0
V-2-1	8/8/2007	1.5	0.7	17.4	80.4
V-2-2	8/8/2007	41.4	28.0	5.5	25.1
V-3-1	8/8/2007	0.7	0.3	18.0	81.0
V-4-1	8/8/2007	0.0	0.0	18.3	81.7
V-4-2	8/8/2007	0.0	0.3	18.0	81.7
V-4-3	8/8/2007	0.0	0.2	18.0	81.8
V-4-4	8/8/2007	0.0	0.3	18.0	81.7
V-4-5	8/8/2007	0.0	13.4	6.4	80.2
V-4-6	8/8/2007	0.0	15.1	4.9	80.0
GW-1	10/31/2007	54.1	45.7	0.1	0.1
GW-2	10/31/2007	58.9	40.9	0.1	0.1
GW-3	10/31/2007	41.6	18.8	2.5	37.1
GW-4	10/31/2007	23.3	18.9	11.3	46.5
GW-5	10/31/2007	23.6	6.1	0.2	70.1
GW-6	10/31/2007	70.6	29.1	0.1	0.2
GW-7	10/31/2007	0.0	3.3	16.1	80.6
GW-8	10/31/2007	9.4	8.9	0.2	81.5
GW-9	10/31/2007	11.5	11.6	0.1	76.8
GW-10	10/31/2007	0.0	1.3	17.9	80.8
GW-11	10/31/2007	0.0	1.4	18.1	80.5
GW-12	10/31/2007	0.0	4.5	15.5	80.0
BH-201	10/31/2007	0.0	0.9	19.1	80.0
BH-301	10/31/2007	42.7	20.2	3.1	34.0
BH-302	10/31/2007	0.0	0.1	20.4	79.5
BH-501	10/31/2007	0.0	1.9	17.1	81.0
BH-502	10/31/2007	0.0	0.5	19.4	80.1
BH-701	10/31/2007	0.0	3.5	16.0	80.5
BH-801	10/31/2007	0.0	2.6	14.1	83.3
BH-802	10/31/2007	0.0	1.0	19.3	79.7
BH-901	10/31/2007	0.0	0.8	18.8	80.4
V-1-1	10/31/2007	54.9	45.0	0.1	0.0
V-2-1	10/31/2007	67.8	30.2	0.6	1.4
V-2-2	10/31/2007	59.3	31.5	1.8	7.4
V-3-1	10/31/2007	19.2	8.5	13.7	58.6
V-4-1	10/31/2007	0.0	0.0	20.4	79.6
V-4-2	10/31/2007	0.0	0.0	20.3	79.7
V-4-3	10/31/2007	0.0	0.0	20.4	79.6
V-4-4	10/31/2007	0.0	0.0	20.3	79.7
V-4-5	10/31/2007	0.0	0.0	20.4	79.6
V-4-6	10/31/2007	0.0	0.0	20.4	79.6
GW-1	2/14/2008	55.6	44.2	0.2	0.0
GW-2	2/14/2008	46.9	31.7	3.1	18.3
GW-3	2/14/2008	0.2	0.4	21.6	77.8
GW-4	2/14/2008	58.3	40.6	1.1	0.0
GW-5	2/14/2008	11.5	5.8	1.8	80.9
GW-6	2/14/2008	10.2	4.1	14.1	71.6
GW-7	2/14/2008	0.0	0.4	20.7	78.9
GW-8	2/14/2008	0.0	1.0	20.2	78.8
GW-9	2/14/2008	0.0	1.0	19.4	79.6
GW-10	2/14/2008	NA	NA	NA	NA
GW-11	2/14/2008	0.0	0.8	20.4	78.8
GW-12	2/14/2008	0.2	0.6	17.7	81.5
V-1-1	2/14/2008	20.4	18.7	12.9	48.0
V-2-1	2/14/2008	18.9	10.7	12.5	57.9
V-2-2	2/14/2008	24.8	12.8	14.7	47.7
V-3-1	2/14/2008	0.5	0.5	21.6	77.4
V-4-1	2/14/2008	0.0	0.1	21.4	78.5
V-4-2	2/14/2008	0.2	0.5	20.6	78.7

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**Georgia-Pacific, LLC**  
**Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site**  
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**Table 2 - Summary of Post-Closure Landfill Gas Monitoring Results**

Sample Location	Date	CH <sub>4</sub> (%)	CO <sub>2</sub> (%)	O <sub>2</sub> (%)	Balance Nitrogen (%)
V-4-3	2/14/2008	0.9	1.5	19.9	77.7
V-4-4	2/14/2008	0.0	0.1	20.3	79.6
V-4-5	2/14/2008	0.0	0.4	20.1	79.5
V-4-6	2/14/2008	0.0	0.1	20.2	79.7
GW-1	5/15/2008	50.1	42.5	0.0	7.4
GW-2	5/15/2008	0.3	0.6	19.3	79.8
GW-3	5/15/2008	5.2	5.6	13.6	75.6
GW-4	5/15/2008	47.8	37.2	0.0	15.0
GW-5	5/15/2008	8.3	4.7	6.1	80.9
GW-6	5/15/2008	0.1	20.0	1.3	78.6
GW-7	5/15/2008	0.1	1.9	17.5	80.5
GW-8	5/15/2008	0.1	2.6	15.2	82.1
GW-9	5/15/2008	0.0	6.1	12.4	81.5
GW-10	5/15/2008	0.0	7.8	7.3	84.9
GW-11	5/15/2008	0.0	8.7	10.1	81.2
GW-12	5/15/2008	0.0	6.3	19.3	74.4
V-1-1	5/15/2008	54.4	43.8	0.0	1.8
V-1-2	5/15/2008	1.1	2.0	18.8	78.1
V-1-3	5/15/2008	0.0	0.0	20.1	79.9
V-1-4	5/15/2008	0.0	0.2	19.9	79.9
V-1-5	5/15/2008	0.1	0.0	20.1	79.8
V-1-6	5/15/2008	0.1	0.0	20.2	79.7
V-2-1	5/15/2008	1.9	3.6	15.9	78.6
V-2-2	5/15/2008	18.1	9.5	13.1	59.3
V-2-10	5/15/2008	0.1	0.0	19.8	80.1
V-3-1	5/15/2008	3.2	1.2	18.8	76.8
V-4-1	5/15/2008	0.0	0.0	20.1	79.9
V-4-2	5/15/2008	0.4	1.3	18.9	79.4
V-4-3	5/15/2008	0.1	0.8	19.3	79.8
V-4-4	5/15/2008	0.0	0.0	20.1	79.9
V-4-5	5/15/2008	0.0	0.0	20.1	79.9
V-4-6	5/15/2008	0.0	0.0	20.0	80.0
BH-201	8/6/2008	0.0	3.4	15.9	80.7
GW-1	8/6/2008	45.5	45.9	0.0	8.6
GW-2	8/6/2008	34.1	35.2	0.0	30.7
GW-3	8/6/2008	0.6	3.5	14.9	81.0
GW-4	8/6/2008	39.0	43.6	0.0	17.4
GW-5	8/6/2008	0.1	4.7	10.9	84.3
GW-6	8/6/2008	0.0	2.2	16.9	80.9
GW-7	8/6/2008	0.1	0.4	18.9	80.6
GW-8	8/6/2008	0.0	8.4	11.7	79.9
GW-9	8/6/2008	0.1	2.8	16.7	80.4
GW-10	8/6/2008	0.0	11.6	5.8	82.6
GW-11	8/6/2008	0.0	12.0	9.5	78.5
GW-12	8/6/2008	0.3	9.2	10.0	80.5
V-1-1	8/6/2008	51.4	47.7	0.0	0.9
V-1-2	8/6/2008	2.6	13.2	9.1	75.1
V-1-3	8/6/2008	0.2	0.3	19.7	79.8
V-1-4	8/6/2008	0.4	0.7	19.6	79.3
V-1-5	8/6/2008	0.3	0.9	19.3	79.5
V-1-6	8/6/2008	2.5	16.3	2.9	78.3
V-2-1	8/6/2008	29.7	16.7	8.6	45.0
V-2-2	8/6/2008	37.4	22.7	8.5	31.4
V-2-3	8/6/2008	0.2	0.1	19.6	80.1
V-2-10	8/6/2008	0.6	4.3	15.1	80.0
V-2-18	8/6/2008	0.1	0.4	19.6	79.9
V-3-1	8/6/2008	3.0	1.2	19.0	76.8
V-4-1	8/6/2008	0.0	0.3	19.7	80.0
V-4-2	8/6/2008	0.0	0.7	19.3	80.0
V-4-3	8/6/2008	0.0	0.2	19.7	80.1
V-4-4	8/6/2008	0.3	0.6	16.8	82.3
V-4-5	8/6/2008	0.3	0.4	19.7	79.6
V-4-6	8/6/2008	0.3	3.7	16.3	79.7
GW-1	11/5/2008	55.9	44.1	0.0	0.0
GW-2	11/5/2008	60.5	35.1	0.1	4.3

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**Georgia-Pacific, LLC**  
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**Table 2 - Summary of Post-Closure Landfill Gas Monitoring Results**

Sample Location	Date	CH <sub>4</sub> (%)	CO <sub>2</sub> (%)	O <sub>2</sub> (%)	Balance Nitrogen (%)
GW-3	11/5/2008	49.7	20.5	2.4	27.4
GW-4	11/5/2008	56.7	41.1	0.2	2.0
GW-5	11/5/2008	0.0	8.0	4.3	87.7
GW-6	11/5/2008	0.0	4.5	12.9	82.6
GW-7	11/5/2008	0.0	2.6	15.3	82.1
GW-8	11/5/2008	0.0	9.2	6.5	84.3
GW-9	11/5/2008	0.0	0.5	20.5	79.0
GW-10	11/5/2008	0.0	0.4	20.4	79.2
GW-11	11/5/2008	0.0	10.5	6.9	82.6
GW-12	11/5/2008	0.0	6.1	14.4	79.5
BH-201	11/5/2008	0.0	0.7	20.1	79.2
BH-301	11/5/2008	0.0	0.6	20.3	79.1
V-1-1	11/5/2008	55.8	44.2	0.0	0.0
V-1-2	11/5/2008	1.6	4.8	16.1	77.5
V-1-3	11/5/2008	0.0	0.1	20.5	79.4
V-1-4	11/5/2008	0.0	0.0	20.6	79.4
V-1-5	11/5/2008	0.0	0.3	20.3	79.4
V-1-6	11/5/2008	0.0	0.1	20.6	79.3
V-2-1	11/5/2008	50.9	22.1	5.9	21.1
V-2-2	11/5/2008	55.4	28.2	3.3	13.1
V-2-3	11/5/2008	0.1	0.2	20.7	79.0
V-2-10	11/5/2008	1.0	3.5	16.5	79.0
V-2-18	11/5/2008	0.0	0.0	21.0	79.0
V-4-1	11/5/2008	3.5	4.5	16.8	75.2
V-4-2	11/5/2008	4.2	8.8	12.4	74.6
V-4-3	11/5/2008	2.5	6.7	14.0	76.8
V-4-4	11/5/2008	0.0	0.0	21.1	78.9
V-4-5	11/5/2008	0.0	0.0	21.1	78.9
V-4-6	11/5/2008	0.0	0.0	20.8	79.2
GW-1	2/5/2009	56.5	39.5	4.0	0.0
GW-2	2/5/2009	0.1	0.2	19.4	80.3
GW-3	2/5/2009	0.1	0.2	19.7	80.0
GW-4	2/5/2009	0.0	0.2	19.0	80.8
GW-5	2/5/2009	0.1	4.0	11.3	84.6
GW-6	2/5/2009	0.1	0.6	18.4	80.9
GW-7	2/5/2009	0.1	0.3	19.5	80.1
GW-8	2/5/2009	0.1	4.2	16.2	79.5
GW-9	2/5/2009	0.1	1.5	18.4	80.0
GW-10	2/5/2009	0.1	0.2	19.7	80.0
GW-11	2/5/2009	0.1	0.3	18.4	81.2
GW-12	2/5/2009	0.1	0.6	17.6	81.7
V-1-1	2/5/2009	36.2	27.0	11.2	25.6
V-1-2	2/5/2009	1.2	1.9	19.0	77.9
V-1-3	2/5/2009	0.1	0.2	19.6	80.1
V-1-4	2/5/2009	0.1	0.2	19.7	80.0
V-1-5	2/5/2009	0.1	0.2	19.6	80.1
V-1-6	2/5/2009	0.1	0.3	19.6	80.0
V-2-1	2/5/2009	13.7	8.5	12.4	65.4
V-2-2	2/5/2009	16.4	9.1	13.0	61.5
V-2-3	2/5/2009	0.1	0.2	19.4	80.3
V-2-10	2/5/2009	0.1	0.2	19.2	80.5
V-2-18	2/5/2009	0.1	0.3	18.4	81.2
V-3-1	2/5/2009	1.9	0.8	16.5	80.8
V-4-1	2/5/2009	3.3	3.1	17.0	76.6
V-4-2	2/5/2009	0.9	1.1	17.9	80.1
V-4-3	2/5/2009	0.8	1.1	17.8	80.3
V-4-4	2/5/2009	0.1	0.2	18.0	81.7
V-4-5	2/5/2009	0.1	0.4	16.8	82.7
V-4-6	2/5/2009	0.1	1.2	17.4	81.3
GW-1	5/21/2009	52.6	46.1	0.4	0.9
GW-2	5/21/2009	48.8	36.5	0.4	14.3
GW-3	5/21/2009	13.5	6.3	10.6	69.6
GW-4	5/21/2009	52.1	46.5	0.5	0.9
GW-5	5/21/2009	0.0	7.5	6.8	85.7
GW-6	5/21/2009	0.0	3.9	11.1	85.0

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**Georgia-Pacific, LLC**  
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**King Highway Landfill Operable Unit 3**  
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**Table 2 - Summary of Post-Closure Landfill Gas Monitoring Results**

Sample Location	Date	CH <sub>4</sub> (%)	CO <sub>2</sub> (%)	O <sub>2</sub> (%)	Balance Nitrogen (%)
GW-7	5/21/2009	0.0	1.8	16.7	81.5
GW-8	5/21/2009	0.0	6.1	12.0	81.9
GW-9	5/21/2009	0.0	2.6	16.6	80.8
GW-10	5/21/2009	0.0	7.7	6.9	85.4
GW-11	5/21/2009	0.0	14.0	6.3	79.7
GW-12	5/21/2009	0.0	2.6	15.4	82.0
BH-201	5/21/2009	0.1	0.7	18.5	80.7
BH-301	5/21/2009	0.0	0.2	19.2	80.6
V-1-1	5/21/2009	52.4	42.8	1.4	3.4
V-1-2	5/21/2009	0.0	0.0	19.4	80.6
V-1-3	5/21/2009	0.0	0.0	19.4	80.6
V-1-4	5/21/2009	0.0	0.0	19.3	80.7
V-1-5	5/21/2009	2.1	5.6	14.5	77.8
V-1-6	5/21/2009	0.0	0.0	19.1	80.9
V-2-1	5/21/2009	28.5	13.1	11.1	47.3
V-2-2	5/21/2009	28.0	13.1	11.8	47.1
V-2-3	5/21/2009	0.0	0.0	19.3	80.7
V-2-10	5/21/2009	0.0	0.0	19.6	80.4
V-2-18	5/21/2009	0.0	0.0	19.5	80.5
V-3-1	5/21/2009	3.2	0.9	18.8	77.1
V-4-1	5/21/2009	1.7	5.9	13.6	78.8
V-4-2	5/21/2009	0.0	0.0	19.4	80.6
V-4-3	5/21/2009	0.0	0.2	19.3	80.5
V-4-4	5/21/2009	0.0	0.0	19.6	80.4
V-4-5	5/21/2009	0.0	0.0	19.5	80.5
V-4-6	5/21/2009	0.0	0.0	19.6	80.4
GW-1	8/19/2009	52.6	46.0	0.4	1.0
GW-2	8/19/2009	56.7	39.9	0.5	2.9
GW-3	8/19/2009	46.5	25.5	3.4	24.6
GW-4	8/19/2009	31.3	37.8	0.1	30.8
GW-5	8/19/2009	0.0	10.7	7.7	81.6
GW-6	8/19/2009	0.0	1.6	16.1	82.3
GW-7	8/19/2009	0.0	4.3	13.1	82.6
GW-8	8/19/2009	0.0	6.1	10.8	83.1
GW-9	8/19/2009	0.0	4.2	13.5	82.3
GW-10	8/19/2009	0.0	0.6	17.6	81.8
GW-11	8/19/2009	0.0	5.9	11.8	82.3
GW-12	8/19/2009	0.1	13.4	4.0	82.5
BH-201	8/19/2009	0.0	1.2	17.4	81.4
BH-301	8/19/2009	0.0	1.5	17.8	80.7
V-1-1	8/19/2009	29.3	27.8	8.0	34.9
V-1-2	8/19/2009	10.3	11.9	11.3	66.5
V-1-3	8/19/2009	2.2	6.3	13.1	78.4
V-1-4	8/19/2009	0.0	0.1	19.2	80.7
V-1-5	8/19/2009	0.0	0.0	19.3	80.7
V-1-6	8/19/2009	0.0	0.0	19.3	80.7
V-2-1	8/19/2009	22.5	12.0	12.1	53.4
V-2-2	8/19/2009	39.6	23.5	6.9	30.0
V-2-3	8/19/2009	0.3	2.1	16.3	81.3
V-2-10	8/19/2009	0.5	2.7	15.5	81.3
V-2-18	8/19/2009	0.0	0.0	18.9	81.1
V-3-1	8/19/2009	1.9	1.0	18.3	78.8
V-4-1	8/19/2009	0.3	0.4	18.7	80.6
V-4-2	8/19/2009	0.0	0.0	18.9	81.1
V-4-3	8/19/2009	0.3	0.5	18.6	80.6
V-4-4	8/19/2009	0.2	0.4	17.9	81.5
V-4-5	8/19/2009	0.0	0.6	18.6	80.8
V-4-6	8/19/2009	0.3	11.5	8.5	79.7
GW-1	11/12/2009	56.9	43.0	0.1	0.0
GW-2	11/12/2009	56.6	37.8	0.0	5.6
GW-3	11/12/2009	4.5	5.6	11.7	78.2
GW-4	11/12/2009	60.0	39.8	0.2	0.0
GW-5	11/12/2009	0.0	9.3	5.7	85.0
GW-6	11/12/2009	0.0	1.7	17.0	81.3
GW-7	11/12/2009	0.0	3.6	16.3	80.1

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**Georgia-Pacific, LLC**  
**Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site**  
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**Table 2 - Summary of Post-Closure Landfill Gas Monitoring Results**

Sample Location	Date	CH <sub>4</sub> (%)	CO <sub>2</sub> (%)	O <sub>2</sub> (%)	Balance Nitrogen (%)
GW-8	11/12/2009	0.0	5.4	13.4	81.2
GW-9	11/12/2009	0.0	1.8	18.5	79.7
GW-10	11/12/2009	0.0	3.2	14.0	82.8
GW-11	11/12/2009	0.0	1.4	18.5	80.1
GW-12	11/12/2009	0.0	4.0	16.6	79.4
BH-201	11/12/2009	1.7	5.0	14.6	78.7
V-1-1	11/12/2009	58.0	41.9	0.1	0.0
V-1-2	11/12/2009	0.9	3.3	17.8	78.0
V-1-3	11/12/2009	0.0	0.0	20.7	79.3
V-1-4	11/12/2009	0.0	0.1	20.5	79.4
V-1-5	11/12/2009	0.0	0.5	19.8	79.7
V-1-6	11/12/2009	0.0	0.1	20.4	79.5
V-2-1	11/12/2009	38.9	20.7	5.1	35.3
V-2-2	11/12/2009	43.6	21.8	7.0	27.6
V-2-3	11/12/2009	0.0	0.1	20.6	79.3
V-2-10	11/12/2009	0.7	0.7	19.7	78.9
V-2-18	11/12/2009	0.0	0.1	20.6	79.3
V-3-1	11/12/2009	1.6	0.7	20.0	77.7
V-4-1	11/12/2009	2.1	1.4	19.7	76.8
V-4-2	11/12/2009	0.0	0.1	20.6	79.3
V-4-3	11/12/2009	0.3	1.4	19.1	79.2
V-4-4	11/12/2009	0.0	0.1	20.6	79.3
V-4-5	11/12/2009	0.0	0.6	20.0	79.4
V-4-6	11/12/2009	0.0	0.1	20.5	79.4
GW-1	2/19/2010	0.7	0.9	20.3	78.1
GW-2	2/19/2010	0.0	0.2	20.6	79.2
GW-3	2/19/2010	44.9	15.9	0.0	39.2
GW-4	2/19/2010	45.5	38.1	0.6	15.8
GW-5	2/19/2010	0.0	0.2	19.4	80.4
GW-6	2/19/2010	0.0	0.0	20.2	79.8
GW-7	2/19/2010	0.0	0.0	20.5	79.5
GW-8	2/19/2010	0.0	0.5	19.0	80.5
GW-9	2/19/2010	0.0	0.8	19.8	79.4
GW-10	2/19/2010	0.0	0.0	20.1	79.9
GW-11	2/19/2010	0.0	0.0	20.4	79.6
GW-12	2/19/2010	0.0	0.0	20.6	79.4
BH-301	2/19/2010	0.0	0.0	20.3	79.7
V-1-1	2/19/2010	22.4	17.4	12.4	47.8
V-1-2	2/19/2010	0.3	1.3	18.8	79.6
V-1-3	2/19/2010	0.0	0.0	20.4	79.6
V-1-4	2/19/2010	0.0	0.0	20.5	79.5
V-1-5	2/19/2010	0.0	0.0	20.6	79.4
V-1-6	2/19/2010	0.0	0.0	20.6	79.4
V-2-1	2/19/2010	0.0	0.0	20.9	79.1
V-2-2	2/19/2010	0.0	0.0	19.8	80.2
V-2-3	2/19/2010	0.0	0.0	21.0	79.0
V-2-10	2/19/2010	0.0	0.0	21.0	79.0
V-2-18	2/19/2010	0.0	0.0	21.0	79.0
V-3-1	2/19/2010	0.0	0.0	21.0	79.0
V-4-1	2/19/2010	0.4	0.7	19.8	79.1
V-4-2	2/19/2010	0.0	0.0	20.6	79.4
V-4-3	2/19/2010	0.0	0.0	20.4	79.6
V-4-4	2/19/2010	0.0	0.0	20.6	79.4
V-4-5	2/19/2010	0.0	0.0	20.6	79.4
V-4-6	2/19/2010	0.0	0.0	19.4	80.6
GW-1	5/27/2010	52.4	47.4	0.2	0.0
GW-2	5/27/2010	57.2	42.5	0.3	0.0
GW-3	5/27/2010	47.7	22.1	4.8	25.4
GW-4	5/27/2010	31.8	34.0	0.1	34.1
GW-5	5/27/2010	0.1	1.0	17.3	81.6
GW-6	5/27/2010	0.3	0.6	19.7	79.4
GW-7	5/27/2010	0.1	1.7	15.3	82.9
GW-8	5/27/2010	0.1	4.3	13.2	82.4
GW-9	5/27/2010	0.0	1.8	17.8	80.4
GW-10	5/27/2010	0.0	0.4	20.1	79.5

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**Table 2 - Summary of Post-Closure Landfill Gas Monitoring Results**

Sample Location	Date	CH <sub>4</sub> (%)	CO <sub>2</sub> (%)	O <sub>2</sub> (%)	Balance Nitrogen (%)
GW-11	5/27/2010	41.3	24.2	0.0	34.5
GW-12	5/27/2010	0.0	1.4	17.7	80.9
BH-1101	5/27/2010	0.8	1.5	18.7	79.0
BH-1102	5/27/2010	51.2	42.6	4.2	2.0
BH-1103	5/27/2010	50.1	45.3	4.4	0.2
BH-1104	5/27/2010	28.2	19.2	8.2	44.4
BH-1105	5/27/2010	0.4	3.9	12.7	83.0
BH-1106	5/27/2010	42.2	49.5	2.4	5.9
BH-1107	5/27/2010	0.1	1.5	16.9	81.5
BH-1108	5/27/2010	51.7	47.7	0.6	0.0
BH-1109	5/27/2010	46.2	17.2	0.5	36.1
BH-1110	5/27/2010	0.2	0.6	9.9	89.3
BH-1111	5/27/2010	49.3	50.2	0.5	0.0
BH-1112	5/27/2010	2.1	11.6	9.4	76.9
BH-1113	5/27/2010	47.4	46.3	0.3	6.0
BH-1114	5/27/2010	0.0	4.7	15.3	80.0
V-1-1	5/27/2010	53.2	46.7	0.1	0.0
V-1-2	5/27/2010	12.0	13.4	12.9	61.7
V-1-3	5/27/2010	2.8	0.2	20.5	76.5
V-1-4	5/27/2010	0.1	0.1	20.6	79.2
V-1-5	5/27/2010	0.1	0.6	19.9	79.4
V-1-6	5/27/2010	0.1	0.0	20.7	79.2
V-2-1	5/27/2010	45.6	24.2	6.9	23.3
V-2-2	5/27/2010	34.2	17.6	9.5	38.7
V-2-3	5/27/2010	5.8	15.0	4.1	75.1
V-2-10	5/27/2010	3.4	7.7	15.5	73.4
V-2-18	5/27/2010	0.3	1.3	19.9	78.5
V-3-1	5/27/2010	2.8	1.0	19.7	76.5
V-4-1	5/27/2010	15.0	6.4	12.4	66.2
V-4-2	5/27/2010	0.0	0.3	20.2	79.5
V-4-3	5/27/2010	0.3	1.2	19.6	78.9
V-4-4	5/27/2010	0.6	1.9	19.6	77.9
V-4-5	5/27/2010	0.4	0.4	19.9	79.3
V-4-6	5/27/2010	0.6	3.0	15.3	81.1
GW-1	8/26/2010	50.5	49.5	0.0	0.0
GW-2	8/26/2010	26.5	26.5	5.5	41.5
GW-3	8/26/2010	39.3	25.4	2.2	33.1
GW-4	8/26/2010	38.8	46.2	0.0	15.0
GW-5	8/26/2010	0.2	2.4	17.0	80.4
GW-6	8/26/2010	0.2	0.9	19.6	79.3
GW-7	8/26/2010	0.3	0.9	19.7	79.1
GW-8	8/26/2010	0.2	8.8	13.9	77.1
GW-9	8/26/2010	0.3	2.2	18.7	78.8
GW-10	8/26/2010	0.2	1.1	18.6	80.1
GW-11	8/26/2010	0.2	20.3	2.5	77.0
GW-12	8/26/2010	0.3	0.3	20.3	79.1
BH-201	8/26/2010	3.4	2.7	18.0	75.9
BH-301	8/26/2010	0.2	0.9	19.0	79.9
V-1-1	8/26/2010	29.9	29.6	6.3	34.2
V-1-2	8/26/2010	0.1	0.2	20.2	79.5
V-1-3	8/26/2010	1.2	4.2	16.6	78.0
V-1-4	8/26/2010	0.2	0.5	20.0	79.3
V-1-5	8/26/2010	0.1	0.2	20.2	79.5
V-1-6	8/26/2010	0.0	0.1	20.2	79.7
V-2-1	8/26/2010	1.8	1.2	19.4	77.6
V-2-2	8/26/2010	18.8	11.3	14.0	55.9
V-2-3	8/26/2010	0.2	0.0	20.5	79.3
V-2-10	8/26/2010	0.2	0.0	20.4	79.4
V-2-18	8/26/2010	0.2	0.2	20.2	79.4
V-3-1	8/26/2010	0.3	0.1	20.4	79.2
V-4-1	8/26/2010	0.7	11.3	19.5	68.5
V-4-2	8/26/2010	0.2	0.4	20.4	79.0
V-4-3	8/26/2010	0.2	1.3	18.2	80.3
V-4-4	8/26/2010	0.2	0.0	20.6	79.2

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**Table 2 - Summary of Post-Closure Landfill Gas Monitoring Results**

Sample Location	Date	CH <sub>4</sub> (%)	CO <sub>2</sub> (%)	O <sub>2</sub> (%)	Balance Nitrogen (%)
V-4-5	8/26/2010	0.2	0.1	20.5	79.2
V-4-6	8/26/2010	0.3	0.0	20.5	79.2
GW-1	11/19/2010	48.7	41.1	1.5	8.7
GW-2	11/19/2010	46.2	36.1	0.0	17.7
GW-3	11/19/2010	0.0	8.7	11.2	80.1
GW-4	11/19/2010	34.8	35.6	0.0	29.6
GW-5	11/19/2010	0.0	11.3	6.9	81.8
GW-6	11/19/2010	0.0	3.8	15.5	80.7
GW-7	11/19/2010	0.0	2.4	18.2	79.4
GW-8	11/19/2010	0.0	7.1	14.2	78.7
GW-9	11/19/2010	0.0	1.8	18.9	79.3
GW-10	11/19/2010	0.0	0.3	19.7	80.0
GW-11	11/19/2010	0.0	9.5	9.0	81.5
GW-12	11/19/2010	0.0	0.0	20.0	80.0
BH-201	11/19/2010	0.0	1.5	18.7	79.8
V-1-1	11/19/2010	53.0	42.2	1.3	3.5
V-1-2	11/19/2010	1.0	1.2	17.3	80.5
V-1-3	11/19/2010	0.0	0.0	20.1	79.9
V-1-4	11/19/2010	0.0	0.0	20.1	79.9
V-1-5	11/19/2010	0.0	0.0	20.0	80.0
V-1-6	11/19/2010	0.0	0.0	20.0	80.0
V-2-1	11/19/2010	21.7	16.9	3.8	57.6
V-2-2	11/19/2010	37.5	18.4	9.3	34.8
V-2-3	11/19/2010	0.0	0.0	20.0	80.0
V-2-10	11/19/2010	0.0	0.0	20.0	80.0
V-2-18	11/19/2010	0.0	0.0	20.0	80.0
V-3-1	11/19/2010	2.8	1.0	19.2	77.0
V-4-1	11/19/2010	0.0	0.9	19.2	79.9
V-4-2	11/19/2010	0.0	0.3	19.5	80.2
V-4-3	11/19/2010	0.0	0.5	19.3	80.2
V-4-4	11/19/2010	0.0	0.0	20.0	80.0
V-4-5	11/19/2010	0.0	0.6	19.9	79.5
V-4-6	11/19/2010	0.0	0.0	20.1	79.9
GW-1	2/28/2011	56.5	43.3	0.0	0.2
GW-2	2/28/2011	0.0	0.3	19.3	80.4
GW-3	2/28/2011	6.4	4.2	14.4	75.0
GW-4	2/28/2011	1.5	2.5	17.6	78.4
GW-5	2/28/2011	0.0	0.2	19.3	80.5
GW-6	2/28/2011	0.0	0.0	19.7	80.3
GW-7	2/28/2011	0.0	1.6	17.2	81.2
GW-8	2/28/2011	0.0	0.9	17.8	81.3
GW-9	2/28/2011	0.0	0.0	19.3	80.7
GW-10	2/28/2011	0.0	0.0	19.2	80.8
GW-11	2/28/2011	11.0	5.0	0.6	83.4
GW-12	2/28/2011	0.0	0.0	19.8	80.2
V-1-1	2/28/2011	0.5	0.5	19.8	79.2
V-1-2	2/28/2011	0.1	0.5	20.3	79.1
V-1-3	2/28/2011	0.0	0.0	20.8	79.2
V-1-4	2/28/2011	0.0	0.0	20.8	79.2
V-1-5	2/28/2011	0.0	0.0	20.9	79.1
V-1-6	2/28/2011	0.0	0.0	20.9	79.1
V-2-1	2/28/2011	0.0	0.0	20.3	79.7
V-2-2	2/28/2011	0.0	0.0	20.0	80.0
V-2-3	2/28/2011	0.0	0.0	20.5	79.5
V-2-10	2/28/2011	0.0	0.0	20.6	79.4
V-2-18	2/28/2011	0.0	0.0	20.6	79.4
V-3-1	2/28/2011	0.0	0.0	20.1	79.9
V-4-1	2/28/2011	0.0	0.0	19.6	80.4
V-4-2	2/28/2011	0.0	0.0	19.8	80.2
V-4-3	2/28/2011	0.0	0.3	19.7	80.0
V-4-4	2/28/2011	0.0	0.0	19.8	80.2
V-4-5	2/28/2011	0.0	0.0	19.9	80.1
V-4-6	2/28/2011	0.0	0.0	19.9	80.1
GW-1	5/12/2011	47.6	48.7	0.1	3.6
GW-2	5/12/2011	48.7	35.1	0.0	16.2

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**Georgia-Pacific, LLC**  
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**Table 2 - Summary of Post-Closure Landfill Gas Monitoring Results**

Sample Location	Date	CH <sub>4</sub> (%)	CO <sub>2</sub> (%)	O <sub>2</sub> (%)	Balance Nitrogen (%)
GW-3	5/12/2011	0.1	5.2	12.9	81.8
GW-4	5/12/2011	56.8	43.1	0.0	0.1
GW-5	5/12/2011	0.0	8.1	10.0	81.9
GW-6	5/12/2011	0.0	1.4	19.4	79.2
GW-7	5/12/2011	0.0	2.3	18.2	79.5
GW-8	5/12/2011	0.0	2.6	17.0	80.4
GW-9	5/12/2011	0.0	2.2	18.3	79.5
GW-10	5/12/2011	0.0	0.2	20.7	79.1
GW-11	5/12/2011	0.0	8.1	12.6	79.3
GW-12	5/12/2011	0.1	0.0	20.7	79.2
BH-101	5/12/2011	0.0	0.4	20.2	79.4
BH-201	5/12/2011	11.6	7.1	13.8	67.5
BH-202	5/12/2011	0.0	0.1	20.8	79.1
V-1-1	5/12/2011	49.3	50.7	0.0	0.0
V-1-2	5/12/2011	0.0	0.0	20.9	79.1
V-1-3	5/12/2011	0.0	1.7	19.0	79.3
V-1-4	5/12/2011	0.0	0.0	21.0	79.0
V-1-5	5/12/2011	0.0	0.0	21.0	79.0
V-1-6	5/12/2011	0.0	0.0	21.0	79.0
V-2-1	5/12/2011	25.5	13.4	11.2	49.9
V-2-2	5/12/2011	36.4	20.3	8.7	34.6
V-2-3	5/12/2011	1.1	4.3	15.4	79.2
V-2-10	5/12/2011	0.7	1.8	17.2	80.3
V-2-18	5/12/2011	0.4	0.6	19.8	79.2
V-3-1	5/12/2011	0.9	0.3	20.5	78.3
V-4-1	5/12/2011	0.0	0.0	20.5	79.5
V-4-2	5/12/2011	0.2	0.1	20.8	78.9
V-4-3	5/12/2011	1.8	1.4	20.1	76.7
V-4-4	5/12/2011	0.1	0.2	20.5	79.2
V-4-5	5/12/2011	0.1	1.9	18.4	79.6
V-4-6	5/12/2011	0.1	2.5	18.1	79.3
GW-1	8/18/2011	52.9	46.7	0.4	0.0
GW-2	8/18/2011	54.8	44.9	0.1	0.2
GW-3	8/18/2011	28.2	19.3	5.4	47.1
GW-4	8/18/2011	47.9	46.3	1.1	4.7
GW-5	8/18/2011	0.0	17.1	5.0	77.9
GW-6	8/18/2011	0.0	0.5	22.1	77.4
GW-7	8/18/2011	0.0	2.0	22.1	75.9
GW-8	8/18/2011	0.0	1.4	21.3	77.3
GW-9	8/18/2011	0.0	2.4	21.2	76.4
GW-10	8/18/2011	0.0	0.4	22.9	76.7
GW-11	8/18/2011	6.5	24.7	0.3	68.5
GW-12	8/18/2011	0.0	11.8	10.3	77.9
BH-201	8/18/2011	3.0	14.5	6.5	76.0
BH-1101	8/18/2011	0.0	0.5	22.9	76.6
BH-V-4-1-1	8/18/2011	0.0	11.6	11.7	76.7
BH-V-4-1-2	8/18/2011	46.8	41.8	3.2	8.2
BH-V-4-1-3	8/18/2011	22.4	20.8	12.6	44.2
BH-V-4-1-4	8/18/2011	28.1	23.7	10.4	37.8
BH-V-4-1-5	8/18/2011	0.0	8.7	21.1	70.2
BH-V-4-1-6	8/18/2011	30.9	36.0	6.4	26.7
BH-V-4-1-7	8/18/2011	1.4	15.3	10.3	73.0
BH-V-4-1-8	8/18/2011	0.0	1.6	21.7	76.7
BH-V-4-1-9	8/18/2011	0.0	7.4	16.2	76.4
V-1-1	8/18/2011	49.6	50.1	0.2	0.1
V-1-2	8/18/2011	0.1	0.2	21.2	78.5
V-1-3	8/18/2011	19.6	6.8	14.6	59.0
V-1-4	8/18/2011	0.4	0.2	21.0	78.4
V-1-5	8/18/2011	0.2	1.1	19.3	79.4
V-1-6	8/18/2011	0.0	0.5	20.2	79.3
V-2-1	8/18/2011	26.3	13.1	14.3	46.3
V-2-2	8/18/2011	—	—	—	—
V-2-10	8/18/2011	0.5	2.6	17.6	79.3
V-2-18	8/18/2011	0.0	0.9	20.0	79.1
V-2-3	8/18/2011	0.0	0.0	21.5	78.5

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**Georgia-Pacific, LLC**  
**Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site**  
**King Highway Landfill Operable Unit 3**  
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**Table 2 - Summary of Post-Closure Landfill Gas Monitoring Results**

Sample Location	Date	CH <sub>4</sub> (%)	CO <sub>2</sub> (%)	O <sub>2</sub> (%)	Balance Nitrogen (%)
V-3-1	8/18/2011	1.1	0.5	21.4	77.0
V-4-1	8/18/2011	19.9	27.9	2.6	49.6
V-4-2	8/18/2011	0.0	0.0	22.8	77.2
V-4-3	8/18/2011	0.0	0.2	22.5	77.3
V-4-4	8/18/2011	0.0	0.4	22.1	77.5
V-4-5	8/18/2011	0.0	1.0	19.0	80.0
V-4-6	8/18/2011	0.0	4.9	17.3	77.8
GW-1	11/17/2011	61.0	37.7	0.9	0.4
GW-2	11/17/2011	36.7	33.9	0.1	29.3
GW-3	11/17/2011	1.1	1.6	15.8	81.5
GW-4	11/17/2011	62.8	34.8	2.4	0.0
GW-5	11/17/2011	0.0	13.2	7.1	79.7
GW-6	11/17/2011	0.0	0.1	18.0	81.9
GW-7	11/17/2011	0.0	1.3	17.1	81.6
GW-8	11/17/2011	0.0	11.4	8.8	79.8
GW-9	11/17/2011	0.0	1.2	17.0	81.8
GW-10	11/17/2011	0.0	2.4	14.8	82.8
GW-11	11/17/2011	0.0	15.4	4.5	80.1
GW-12	11/17/2011	0.0	0.0	20.1	79.9
GW-13	11/17/2011	60.1	39.3	0.3	0.3
GW-14	11/17/2011	2.8	3.7	5.6	87.9
GW-15	11/17/2011	0.0	1.3	16.1	82.6
GW-16	11/17/2011	0.0	0.5	17.5	82.0
GW-17	11/17/2011	0.0	1.6	16.5	81.9
BH-201	11/17/2011	0.0	3.1	16.7	80.2
BH-1301	11/17/2011	0.0	0.0	17.9	82.1
V-1-1	11/17/2011	41.4	30.2	7.1	21.3
V-1-2	11/17/2011	1.2	2.6	17.2	79.0
V-1-3	11/17/2011	0.0	0.0	19.1	80.9
V-1-4	11/17/2011	0.0	0.0	19.1	80.9
V-1-5	11/17/2011	0.0	0.0	19.1	80.9
V-1-6	11/17/2011	0.0	0.0	18.4	81.6
V-2-1	11/17/2011	0.0	0.0	18.8	81.2
V-2-2	11/17/2011	11.3	5.5	15.9	67.3
V-2-3	11/17/2011	0.0	0.0	19.0	81.0
V-2-10	11/17/2011	0.0	0.0	19.0	81.0
V-2-18	11/17/2011	0.0	0.0	18.8	81.2
V-3-1	11/17/2011	0.0	0.0	18.9	81.1
V-4-1	11/17/2011	0.5	0.5	19.8	79.2
V-4-2	11/17/2011	1.1	1.5	18.6	78.8
V-4-3	11/17/2011	0.1	1.0	19.1	79.8
V-4-4	11/17/2011	0.0	0.1	19.9	80.0
V-4-5	11/17/2011	0.0	0.0	20.2	79.8
V-4-6	11/17/2011	0.0	0.0	20.2	79.8
GW-1	2/16/2012	59.1	42.9	0.4	0.0
GW-2	2/16/2012	8.5	7.4	16.8	67.3
GW-3	2/16/2012	0.1	0.7	19.8	79.4
GW-4	2/16/2012	63.7	34.0	0.8	1.5
GW-5	2/16/2012	0.0	9.3	7.2	83.5
GW-6	2/16/2012	0.0	0.4	21.2	78.4
GW-7	2/16/2012	0.0	2.1	18.7	79.2
GW-8	2/16/2012	0.0	5.2	15.8	79.0
GW-9	2/16/2012	0.0	1.5	19.2	79.3
GW-10	2/16/2012	0.0	6.7	7.4	85.9
GW-11	2/16/2012	0.0	7.0	12.7	80.3
GW-12	2/16/2012	0.0	0.1	21.5	78.4
GW-13	2/16/2012	54.9	43.7	0.7	0.7
GW-14	2/16/2012	1.3	3.9	14.4	80.4
GW-15	2/16/2012	0.0	3.3	17.0	79.7
GW-16	2/16/2012	0.0	1.4	19.8	78.8
GW-17	2/16/2012	0.0	0.5	20.8	78.7
BH-201	2/16/2012	0.0	0.1	21.3	78.6
BH-1301	2/16/2012	0.0	0.6	21.2	78.2
BH-1302	2/16/2012	13.1	10.7	16.8	59.4
BH-1303	2/16/2012	0.0	0.2	21.4	78.4

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**Georgia-Pacific, LLC**  
**Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site**  
**King Highway Landfill Operable Unit 3**  
**Landfill Gas Monitoring Program**

**Table 2 - Summary of Post-Closure Landfill Gas Monitoring Results**

Sample Location	Date	CH <sub>4</sub> (%)	CO <sub>2</sub> (%)	O <sub>2</sub> (%)	Balance Nitrogen (%)
V-1-1	2/16/2012	6.4	4.9	19.7	69.0
V-1-2	2/16/2012	1.4	1.9	21.0	75.7
V-1-3	2/16/2012	0.1	0.1	21.0	78.8
V-1-4	2/16/2012	0.0	0.1	21.9	78.0
V-1-5	2/16/2012	0.0	0.1	21.9	78.0
V-1-6	2/16/2012	0.0	0.1	21.9	78.0
V-2-1	2/16/2012	1.5	0.9	20.9	76.7
V-2-2	2/16/2012	15.0	7.5	17.0	60.5
V-2-3	2/16/2012	0.0	0.1	21.6	78.3
V-2-10	2/16/2012	0.0	0.1	21.7	78.2
V-2-18	2/16/2012	0.1	0.1	21.8	78.0
V-3-1	2/16/2012	0.0	0.1	21.5	78.4
V-4-1	2/16/2012	1.2	1.3	20.1	77.4
V-4-2	2/16/2012	0.6	0.8	20.5	78.1
V-4-3	2/16/2012	0.5	0.6	20.7	78.2
V-4-4	2/16/2012	0.0	0.1	21.5	78.4
V-4-5	2/16/2012	0.0	0.2	21.3	78.5
V-4-6	2/16/2012	0.1	0.1	21.2	78.6
GW-1	6/7/2012	47.6	45.9	0.0	6.5
GW-2	6/7/2012	41.5	38.5	0.0	20.0
GW-3	6/7/2012	40.2	20.2	0.0	39.6
GW-4	6/7/2012	33.3	40.6	0.3	25.8
GW-5	6/7/2012	0.3	10.8	10.3	78.6
GW-6	6/7/2012	0.3	4.5	16.9	78.3
GW-7	6/7/2012	0.2	2.6	18.0	79.2
GW-8	6/7/2012	0.3	6.9	15.3	77.5
GW-9	6/7/2012	0.3	3.2	18.5	78.0
GW-10	6/7/2012	0.0	8.6	14.7	76.6
GW-11	6/7/2012	0.2	13.3	9.3	77.2
GW-12	6/7/2012	0.2	4.4	16.5	78.9
GW-13	6/7/2012	48.5	49.6	0.0	1.9
GW-14	6/7/2012	5.1	8.4	4.2	82.3
GW-15	6/7/2012	0.2	5.8	15.1	78.9
GW-16	6/7/2012	0.3	4.3	17.1	78.3
GW-17	6/7/2012	0.0	0.7	20.5	78.8
BH-3-01	6/7/2012	0.6	1.5	19.6	78.3
BH-13-01	6/7/2012	29.2	26.7	4.8	39.3
BH-13-02	6/7/2012	0.3	0.4	20.5	78.8
BH-13-03	6/7/2012	23.8	21.1	9.7	45.4
BH-13-04	6/7/2012	0.2	0.1	20.9	78.8
BH-13-05	6/7/2012	14.1	4.8	15.8	65.3
BH-13-06	6/7/2012	0.5	1.5	20.3	77.7
BH-13-07	6/7/2012	0.3	0.6	20.3	78.8
BH-13-08	6/7/2012	0.3	1.1	20.3	78.3
BH-14-01	6/7/2012	0.0	0.6	19.9	79.5
V-1-1	6/7/2012	29.0	25.1	9.5	36.4
V-1-2	6/7/2012	0.0	0.1	20.4	79.5
V-1-3	6/7/2012	0.2	0.5	20.2	79.1
V-1-4	6/7/2012	0.0	0.4	20.3	79.3
V-1-5	6/7/2012	0.3	3.3	16.7	79.7
V-1-6	6/7/2012	0.0	0.3	20.3	79.4
V-2-1	6/7/2012	5.8	2.6	18.7	72.9
V-2-2	6/7/2012	15.8	7.7	16.7	59.8
V-2-3	6/7/2012	0.0	0.5	20.1	79.4
V-2-10	6/7/2012	0.1	0.6	20.0	79.3
V-2-18	6/7/2012	0.0	1.1	19.4	79.5
V-3-1	6/7/2012	0.1	0.0	20.6	79.3
V-4-1	6/7/2012	0.4	0.5	20.5	78.6
V-4-2	6/7/2012	0.3	3.1	18.7	77.9
V-4-3	6/7/2012	0.1	3.2	18.3	78.4
V-4-4	6/7/2012	0.1	0.2	20.7	79.0
V-4-5	6/7/2012	0.2	0.0	20.9	78.9
V-4-6	6/7/2012	0.2	0.1	20.9	78.8
GW-1	8/23/2012	54.2	45.6	0.0	6.5
GW-2	8/23/2012	52.9	45.2	0.1	20.0

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**Georgia-Pacific, LLC**  
**Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site**  
**King Highway Landfill Operable Unit 3**  
**Landfill Gas Monitoring Program**

**Table 2 - Summary of Post-Closure Landfill Gas Monitoring Results**

Sample Location	Date	CH <sub>4</sub> (%)	CO <sub>2</sub> (%)	O <sub>2</sub> (%)	Balance Nitrogen (%)
GW-3	8/23/2012	25.2	31.5	0.1	39.6
GW-4	8/23/2012	45.9	45.8	0.0	25.8
GW-5	8/23/2012	0.4	13.5	9.6	78.6
GW-6	8/23/2012	0.3	7.7	14.4	78.3
GW-7	8/23/2012	0.3	5.0	16.4	79.2
GW-8	8/23/2012	0.4	14.4	9.5	77.5
GW-9	8/23/2012	0.4	3.8	17.7	78.0
GW-10	8/23/2012	0.3	13.9	4.4	76.6
GW-11	8/23/2012	0.1	5.2	14.2	77.2
GW-12	8/23/2012	0.0	10.1	10.5	78.9
GW-13	8/23/2012	51.8	48.0	0.0	1.9
GW-14	8/23/2012	19.6	13.2	0.9	82.3
GW-15	8/23/2012	0.4	7.4	12.5	78.9
GW-16	9/6/2012	0.1	4.9	17.2	78.3
GW-17	9/6/2012	0.1	3.9	19.7	78.8
BH-2-01	8/23/2012	0.2	1.4	19.8	78.3
BH-13-01	8/23/2012	25.6	21.3	6.4	39.3
BH-13-02	8/23/2012	0.2	0.7	20.0	78.8
BH-13-03	8/23/2012	44.6	33.7	3.0	45.4
BH-13-04	8/23/2012	0.1	0.4	20.2	78.8
BH-13-05	8/23/2012	9.0	6.5	15.1	65.3
BH-13-06	8/23/2012	0.2	0.1	20.3	77.7
BH-13-07	8/23/2012	0.2	0.3	20.2	78.8
BH-13-08	8/23/2012	0.1	0.1	20.4	78.3
BH-14-01	8/23/2012	0.3	1.9	19.4	79.5
V-1-1	8/23/2012	44.4	34.9	9.6	36.4
V-1-2	8/23/2012	1.6	1.1	20.6	79.5
V-1-3	8/23/2012	0.2	0.0	21.4	79.1
V-1-4	8/23/2012	15.1	13.6	12.0	79.3
V-1-5	8/23/2012	0.4	0.1	21.1	79.7
V-1-6	8/23/2012	4.2	7.5	16.0	79.4
V-2-1	8/23/2012	19.8	11.1	14.5	72.9
V-2-2	8/23/2012	8.5	4.3	19.1	59.8
V-2-3	8/23/2012	0.2	0.0	21.4	79.4
V-2-10	8/23/2012	0.5	0.3	21.1	79.3
V-2-18	8/23/2012	0.4	0.0	21.2	79.5
V-3-1	9/6/2012	0.5	0.1	20.9	79.3
V-4-1	8/23/2012	0.2	0.2	20.3	78.6
V-4-2	8/23/2012	0.2	0.2	20.2	77.9
V-4-3	8/23/2012	0.1	0.1	20.4	78.4
V-4-4	8/23/2012	0.0	0.5	19.9	79.0
V-4-5	8/23/2012	0.0	0.2	20.4	78.9
V-4-6	8/23/2012	0.0	0.5	20.4	78.8
GW-1	11/8/2012	57.3	42.5	0	0.2
GW-2	11/8/2012	49.6	39	0	11.4
GW-3	11/8/2012	22	18.5	0.8	58.7
GW-4	11/8/2012	60.4	38.9	0	0.7
GW-5	11/8/2012	0	11.4	8.4	80.2
GW-6	11/8/2012	0	4.7	16	79.3
GW-7	11/8/2012	0	2.7	17.8	79.5
GW-8	11/8/2012	0	11.2	9.3	79.5
GW-9	11/8/2012	0	3	17.1	79.9
GW-10	11/8/2012	0	10.9	8.1	81
GW-11	11/8/2012	0	10.1	9.8	80.1
GW-12	11/8/2012	0	4.2	15.8	80
GW-13	11/8/2012	58	40.7	0.7	0.6
GW-14	11/8/2012	15.7	7.8	1.2	75.3
GW-15	11/8/2012	0	7.3	11.4	81.3
GW-16	11/8/2012	0	5.2	16	78.8
GW-17	11/8/2012	0	5.3	15.9	78.8
BH-2-01	11/8/2012	0	3	15.9	81.1
BH-13-01	11/8/2012	60	38.6	1.4	0
BH-13-02	11/8/2012	0	1.2	12.9	85.9
BH-13-03	11/8/2012	20.8	19	6	54.2
BH-13-04	11/8/2012	0	3.6	16.2	80.2

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**Georgia-Pacific, LLC**  
**Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site**  
**King Highway Landfill Operable Unit 3**  
**Landfill Gas Monitoring Program**

**Table 2 - Summary of Post-Closure Landfill Gas Monitoring Results**

Sample Location	Date	CH <sub>4</sub> (%)	CO <sub>2</sub> (%)	O <sub>2</sub> (%)	Balance Nitrogen (%)
BH-13-05	11/8/2012	0	0.7	19.5	79.8
BH-14-01	11/8/2012	0	0.5	19.3	80.2
V-1-1	11/8/2012	38.8	33.5	5.3	22.4
V-1-2	11/8/2012	0.7	2.7	18.2	78.4
V-1-3	11/8/2012	0	0.1	20.6	79.3
V-1-4	11/8/2012	0	0.1	20.7	79.2
V-1-5	11/8/2012	0	0.1	20.6	79.3
V-1-6	11/8/2012	0	0.3	20.5	79.2
V-2-1	11/8/2012	0	0.1	20.2	79.7
V-2-2	11/8/2012	4.7	2.4	18	74.9
V-2-3	11/8/2012	0	0.1	20.6	79.3
V-2-10	11/8/2012	0	0.1	20.6	79.3
V-2-18	11/8/2012	0	0.1	20.6	79.3
V-3-1	11/8/2012	0	0.1	20.2	79.7
V-4-1	11/8/2012	0.4	0.5	20.1	79
V-4-2	11/8/2012	0	0.1	20.3	79.6
V-4-3	11/8/2012	0	0.8	19.6	79.6
V-4-4	11/8/2012	0	0.1	20.2	79.7
V-4-5	11/8/2012	0	0.5	19.8	79.7
V-4-6	11/8/2012	0	0.1	19.8	80.1
Storage Shed	11/8/2012	0	0	20.7	79.3

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**Georgia-Pacific, LLC**  
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**King Highway Landfill Operable Unit 3**  
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**Table 2 - Summary of Post-Closure Landfill Gas Monitoring Results**

**Notes:**

1. Landfill gas monitoring results provided by CTI and Associates, Inc. using a GEM™ 2000 portable gas analyzer from April 27, 2003 to May 21, 2004.
2. Landfill gas monitoring results provided by Golder Associates, Inc. using a GEM™ 500 portable gas analyzer from September 29, 2004 to May 8, 2006, November 8, 2006, May 10, 2007, and August 6, 2008.
3. Landfill gas monitoring results provided by Golder Associates, Inc. using a GEM™ 2000 portable gas analyzer on September 7, 2006, February 8, 2007, August 8, 2007, October 31, 2007, May 15, 2008, November 5, 2008, February 5, 2009, May 21, 2009, August 19, 2009, and November 12, 2009.
4. Landfill gas monitoring results provided by ARCADIS using a GEM™ 500 portable gas analyzer on February 19, 2010, May 27, 2010, August 26, 2010, November 19, 2010, February 28, 2011, May 12, 2011, August 18, 2011, November 17, 2011, February 16, 2012, June 7, 2012, August 23, 2012, September 6, 2012, and November 8, 2012.
5. Landfill gas monitoring results provided by ARCADIS using a GEM™ 2000 portable gas analyzer on February 16, 2012.
6. On February 8, 2006, three other borings were attempted at the location of BH-201, but the boreholes were too wet to provide an accurate reading.
7. The water level at the location of the borehole was too high to provide an accurate reading.
8. On February 8, 2007, methane concentrations were detected above the lower explosive limit at GW-3; however, temporary boreholes were not installed to delineate the extent of the methane due to a health and safety risk created by snow covered rocks along the river.
9. On February 8, 2007, the valve on GW-6 was frozen and the cap could not be removed. The concentrations presented for GW-6 were obtained from a temporary borehole, which was installed directly next to well.
10. An additional temporary borehole(s) was not installed west of permanent gas probe GW-11 to delineate the extent of methane concentrations above the LEL toward the adjacent Kalamazoo Metal Recyclers, Inc. property due to the amount of debris located underneath the ground surface along the western property line of the KHL OU.
11. Due to rapid fluctuations in the gas concentration readings on the GEM™ 2000 portable gas analyzer, the concentrations for all parameters (i.e., CH<sub>4</sub>, O<sub>2</sub>, and CO<sub>2</sub>) could not be determine from the same reading, producing a balance nitrogen concentration for GW-1 less than zero.
12. CH<sub>4</sub> = Methane.
13. CO<sub>2</sub> = Carbon Dioxide.
14. O<sub>2</sub> = Oxygen.
15. GW = Permanent gas monitoring probe.
16. BH = Temporary borehole.
17. V = Permanent gas vent.
18. -- = gas vent was not monitored.



## **Figures**



